

EXTRA

EXPO
SPECIAL

Expo rallies NeXT market for a big year, new products

by DAN LAVIN

San Francisco – Today's opening of NeXTWORLD Expo marks the first international gathering of users, dealers and distributors, and third-party developers that make up the burgeoning NeXT market.

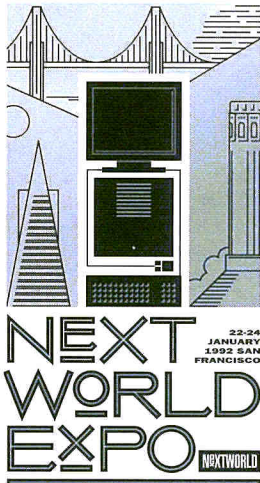
Thousands of attendees from all states and numerous foreign countries – some from as far away as Russia, France, and Australia – will first hear NeXT CEO Steve Jobs's keynote address introducing a barrage of much-anticipated new products. Then they will choose from over 40 conference sessions and browse the wares of 70 exhibitors.

For some, the Expo represents a Woodstock of computerdom.

Gianfranco Pocecai, a NeXT user at the University of Milan, Italy, said he started packing his bags the minute he heard about the show. "Of course I must be there," he said.

For those who have taken the plunge into the NeXT market, the high level of interest in the Expo is one more indication that, for the NeXT platform, the time may finally have come. "We've been overwhelmed by the enthusiastic response to the show," said Jeanne Barnard, associate publisher of NeXTWORLD magazine. For Jobs, Expo is "a great way to kick off what will be a super-successful 1992."

And what about 1992? NeXT is expected to [SEE EXPO, PAGE 4]



Abacus ships Mac emulator

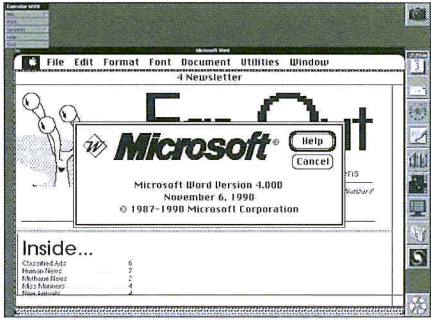
by DAN LAVIN

Albuquerque, NM – NeXT users can now run Macintosh software in a NeXT window, thanks to the Executor-MSW software emulator from Abacus Research and Development (ARDI). The \$80 product was officially released in late December and is being demonstrated at this week's Expo.

This current release is guaranteed to run only Microsoft Word for the Macintosh Version 4.00d on the NeXT, although the software will import any Macintosh program and attempt to

run it. Although many other applications will run successfully, the company conceded that most major programs except Word will probably have bugs.

Executor does not include emulation of the Apple Finder. Because the [SEE ABACUS, PAGE 4]



Abacus's new Executor-MSW will run Microsoft Word 4.00d for the Mac on a NeXT machine. An Excel version will follow.

NeXTstep '486: Get ready!

by LAURIE FLYNN

Redwood City, CA – When NeXT announces its port of NeXTstep for Intel '486 machines this week, the company will demonstrate the software running on PCs specially engineered to match NeXT's video scheme.

NeXT will demonstrate its operating system running on a PC – most likely one from Dell Computer Corporation – equipped with graphics circuitry on the motherboard that addresses 16-bit color video in ways compatible with NeXTstep. NeXT's 16-bit video scheme uses 12 bits of video and 4 bits of alpha channel. "Dell was willing to modify the way it does graphics," said Mike Slade, NeXT's director of marketing. Slade called the modifications necessary to optimize a '486 system for NeXTstep "trivial." For optimal screen resolution, NeXT will recommend using 1024-by-768-pixel graphics, similar to XGA, said Slade.

To speed video, Dell has been testing systems with processor-driven graphics, and at Fall Comdex demonstrated a '486 system equipped with "local bus video," according to Lisa Rohls, a spokeswoman for the Austin, Texas-based PC vendor. By using this method, a 50MHz '486 system performed some operations five times faster than a SPARCstation, said Rohls.

Regardless of Dell's efforts to optimize video performance, the company has not yet decided whether it will license NeXTstep. "[Steve Jobs] has talked to us, but

Next shifts dealer strategy

by ERIC J. ADAMS

Redwood City, CA – Based on discouraging retail sales figures, NeXT has quietly shifted its dealer strategy away from retail storefronts to "value-added dealers" – sellers who can handle longer and more complex sales cycles.

"I think the early expectation of all parties – that these things would walk off the shelves in 30 to 60 days – was overly optimistic," said Erna Arnesen, NeXT's director of channel sales. "What we realized is that 90 days later, [dealers] are just starting to close sales."

Consequently, NeXT has redirected its support efforts away from grand openings and retail-marketing activities and toward direct sales support, such as training, vertical seminars, assistance with technical integration and proposals, and direct NeXT

involvement around key bids, said Arnesen.

Most NeXT dealers generally support the new strategy, saying it will help get NeXT machines into the hands of large customers. "NeXT is the kind of product that needs a one-on-one introduction, the same way Apple did eight or nine years ago," said Richard Silver, president of Cambridge Electronics, in Cambridge, Massachusetts. "[NeXT's strategy] may not be the fastest way, but I think it's the surest way to get the machines in the hands of the right people." [SEE DEALERS, PAGE 4]

NeXT distribution through the years

October 1988: NeXT says it will focus on the higher-education market with direct sales force

March 1989: NeXT announces exclusive deal with Businessland for push into business market

July 1989: Canon becomes exclusive distributor of NeXT in Asian market

May 1991: NeXT/Businessland deal dies; NeXT signs on other storefront dealers

Late 1991: NeXT shifts focus from retail storefronts to value-added dealers

at this point we haven't made a decision. The door's still open," said Rohls. NeXT is also interested in a deal with Compaq, according to sources. Compaq, [SEE INTEL, PAGE 4]

Hayes unveils low-cost ISDN

by DAN LAVIN

San Francisco – Hayes Microcomputer Products will finally lift its shroud of secrecy today when it announces a low-cost ISDN adapter that connects to the NeXT computer.

According to sources, the device is a basic-rate ISDN interface. It supports two 64kbps "b" channels and a "d," or control, channel, as well as regular analog phone service for the U.S. market.

The product was developed to work with the Phone Kit to be released in NeXTstep 3.0. By using the Phone Kit's objects, developers can build applications that make the NeXT an ISDN modem, dial the phone, or act as an [SEE HAYES, PAGE 4]

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MIX connects up NeXT

by LEE SHERMAN

The NeXT's potential to serve as the nerve center of an integrated communications system may soon be realized when i-link of Germany releases Multimedia Information Exchange (MIX). MIX is a combination hardware and software product that provides the functions of a data modem, fax modem, telephone answering service, and voice-mail system, according to i-link CEO Piers Walter.

Features include automatic routing of incoming calls to fax, modem, or answering service; automated dialing; data transfer at 2400 baud; faxing at 9600 baud; and advanced functions such as interactive voice menus.

Most of the required signal processing is done using the NeXT's Digital Signal Processor (DSP). A separate unit converts the digital signals to analog and then to telephone-line signals.

The software-based modem is fully integrated into the system, working in conjunction with NeXTmail. i-link provides its own interface to the answering machine and voice-mail portion of the package. MIX can be expanded with a simple software upgrade.

Axsys delivers NeXT accounting

by DAN LAVIN

San Francisco – The NeXT will get its first accounting package at NeXTWORLD Expo this week with the release of Fiscal Dimension for both the home and business markets. The product, from Axsys Software, features full double-entry accounting, budgeting, and check writing.

The product, written by a CPA, takes full advantage of the NeXT environment. "By using the NeXT, we have been able to break the traditional accounting software custom of using many distinct modules," said Michael Steele, who is CEO of Axsys as well as a CPA. "Instead, all elements of Fiscal Dimension are available at all times."

A home version is available now for \$249. A business version is due to ship this spring for \$495, with a prerelease offer available now.

Axsys Software is at P.O. Box 1184, Bala Cynwyd, PA 19004. 215/667-6822. ♦

MIX had its beginnings in 1987, when i-link began developing a graphical compiler for signal processing applications. The company also had planned to build an ISDN product, but that project was cancelled.

But with a powerful development environment for programming the DSP in place, i-link began to apply the ideas originally developed for the ISDN system to what was to become MIX.

Walters said MIX will be released in time for NeXTWORLD Expo. The package will sell in Germany for DM 1200 (about \$800), but the price in the U.S. should be considerably lower. ♦

First 3-D CAD on the horizon

BY DAN LAVIN

San Francisco – The void in NeXT computer-aided design (CAD) software is closer to being filled after Spatial Technologies announced a port of ACIS, its geometric modeler, to the NeXT platform. The company will show the software privately during NeXTWORLD Expo.

Availability of the ACIS engine is an important prerequisite for major CAD vendors to undertake development of their next-generation programs on the NeXT. "We've had several CAD developers eager to develop and have requested that the ACIS technology be made available," said Chris MacAskill, manager of developer relations at NeXT.

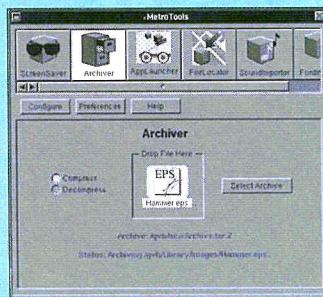
Leading CAD-software suppliers, like Autodesk, will be using ACIS technology in future products. The software is currently ported to the SPARC, Silicon Graphics, HP, IBM RS/6000, IBM PC, and VAX platforms.

The difference between ACIS and older computational engines is that it models the complete geometry of an object rather than just surface edges. ACIS supports interfaces with several leading rendering standards, including Pixar's RenderMan, which NeXT will include in NeXTstep 3.0. Spatial did not rule out a possible deal similar to RenderMan's. "NeXT has made a 3-D renderer available to all of their users. The next step would be a 3-D modeler," said Gary Sze, OEM sales manager for ACIS.

Contact ACIS at 303/440-9763. ♦

by KRISTIN DYER

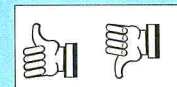
You're sure you've seen and heard it all, and managed to abuse every piece of software in the house. But what if you miss something? Here's a guide to the Expo's highlights and must-sees.



Utility software: MetroSoft's MetroTools can find your files and archive them, extend your dock, and launch applications, then save your screen with your favorite animation. And on the side, it can import Mac sounds and fonts. . . . Atherton Software Works has created a multilevel dock extender to unclutter your desktop. Engage allows you to keep separate docks for managing your money and writing your tell-all book, just in case you'd get them confused. . . . And Adobe has a New Year's present for you: It will begin bundling 21 free fonts with Illustrator and 14 with TouchType, just in time for Expo.

Organizers: You probably don't want to lose contact with all those people you let sleep on your hotel-

room floor. OnDuty not only will keep their addresses on file, but a contacts screen will help you remember where you met them. The utility, from Digital Instruments, also has an appointment calendar and reminder option. . . . If your problem is arranging conference rooms for 300 people, check out the beta version of Pencil Me In by Sarrus. The group-scheduling app works with e-mail to make sure everyone gets notified. . . . SpeedDex by Technology Management uses a Rolodex-style card stack that holds text and image files. . . . ElectroFile, an electronic filing system from Insight Software, provides a classification window next to a recalled document for making notes. The program was designed for use in litigation.



Thumbs up: Come catch a traveling road show of

NeXTWORLD's irreverent pair of reviewers, Barlow & Lavin, at 9 a.m. Thursday. And at 5 p.m. Wednesday come hear from a panel of experts about the Ten Most Wanted NeXT products.

Steve Jobs: When you're tired of being on your feet and ready for some real entertainment, come hear NeXT's CEO give his vision of future technology, and announce NeXT's plans to port NeXTstep onto Intel machines. Plus, get a load of the surprising partners that will be sharing the stage. That's at 10:30 a.m. Wednesday.

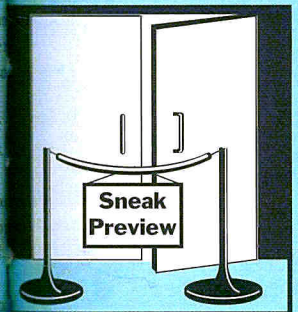


Party circuit: Hob-nob with the rich and famous – or at least the famous – at one of the many parties and hospitality suites hosted by NeXT vendors. NeXTWORLD's own Lt. Sullivan is considering hosting a bash for his sources, so you can figure out a cover. And, if you come from out of town, be sure to break away and enjoy the pleasures of San Francisco. Restaurants, cable cars, and tourist traps are waiting beyond the Expo doors.

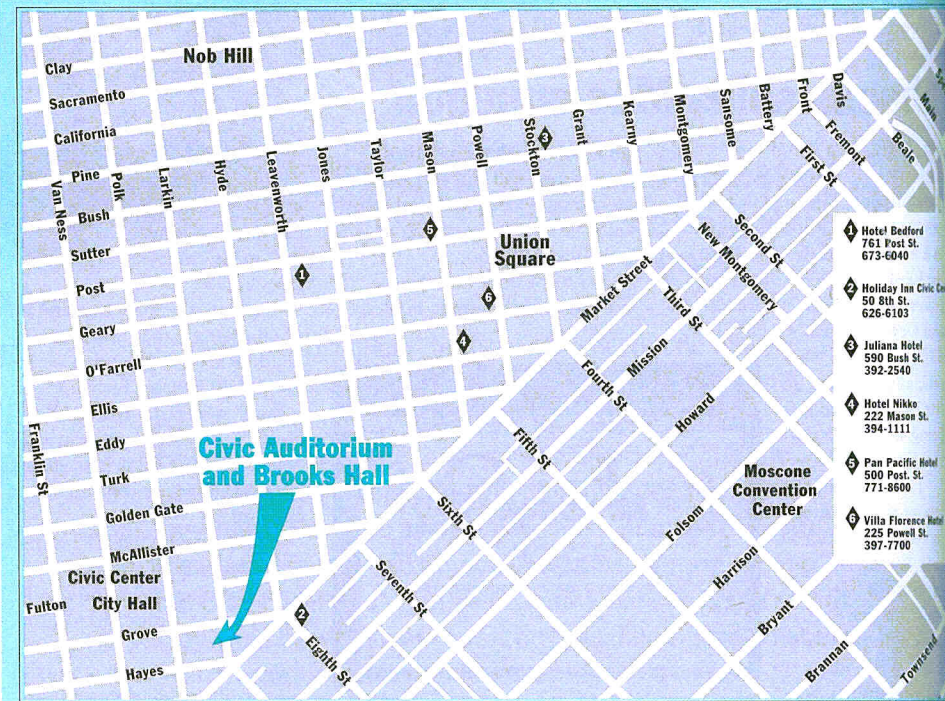
Storage and more: All this cool stuff, but where are you going to store it all? Tecor's Skyscraper should help solve the problem. A SCSI peripheral, the Skyscraper can store from 7 to 35 removable 2GB drives. . . . If your space needs are a bit more modest, PLI offers four new optical drives in 3.5-inch and 5.25-inch formats, as well as a 2GB drive. . . . While you're at it, imagine your computer gently shutting down when the power surges or goes out, and gracefully starting back up when the power becomes available. If this sounds like pure fantasy,

check out Quest's PowerLink and stream on. . . . German i-link claims to have fulfilled the mission of the PC card with MIX, a multifunctional program. MIX can handle your voice, fax, and computer transmissions with one integrated software/hardware package.

Sneak previews: As usual, much of the real excitement will be taking place behind closed doors, in private homes and conference rooms. Lucky attendees with invitations will see Modem's new knowledge-based financial modeling program. And its opponent will be showing, under NeXT vendors. NeXTWORLD's own Lt. Sullivan is considering hosting a bash for his sources, so you can figure out a cover. And, if you come from out of town, be sure to break away and enjoy the pleasures of San Francisco. Restaurants, cable cars, and tourist traps are waiting beyond the Expo doors.



Forum: If you remain spellbound and Expo can't feed your appetite for new and exciting, hop on one of the sleek black shuttles and take a trip to UniForum at the Moscone Center. Your NeXTWORLD Expo exhibitor badge gets you in free! We can't guarantee what you'll find, but it's sure to be out of this world.



Getting there

The City of San Francisco earned \$3.4 million in revenue from parking tickets last year, so if you want to help fund the old dame, we recommend public transportation to NeXTWORLD Expo. It's \$.85 to catch a city bus (called the MUNI), and a free transfer is good for a few hours. And if you get lost, try MUNI information at 311-6864.

A few blocks from Expo is Union Square & Market streets, the city's hub of tourist and shopping activity. You'll find the Visitors Information Bureau (Mon. – Fri., 9 a.m. – 5:30 p.m., 391-2000), where you can pick up city guides, maps, and discount MUNI passes. For tenderfoots, consider Veteran's Cab (552-1300).

L I G H T S A N D F U N F A C T S

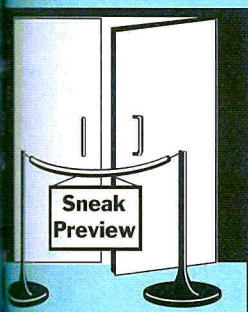


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Killer T-shirts: One of the big problems with the NeXT has been the lack of ways to output the beautiful images created on the machine. First the Canon Laser Copier (CLC) arrived to help solve the problem. Now, Graffoto, a developer in Vancouver, British Columbia, has taken that one step further. By running the company's Paro paper through a CLC, ambitious users can print high-quality four-color images on T-shirts. The images have higher resolution than traditional silk-screening. "We think Paro is to silk-screening what desktop publishing was to hot lead," said Paul Wahlgren, vice president of Graffoto. Paro costs about \$2 a shirt. Check it out.



The Question Man:

What are you hoping to see at NeXTWORLD Expo?

"Some really awesome 3-D stuff. I know NeXT has been working on the 3DKit, but I haven't seen it. I want my tongue to hang out."
– Andy Stone, founder, Stone Design

"I always want to see Steve do a demo speech because he's so passionate. And also the '486 situation, because some of the restrictions for our software has been the hardware limitations. Unless you can convert everyone to the same hardware, you miss out on software opportunities."
– Helen Pastorino, president, Alain Pinel Realtors

"I want to see evidence that NeXT is going to make it. Also, a diversity of products, especially in the areas in which NeXT hasn't focused its marketing: graphics and design. And I want to see the NeXT community developing a larger sense of itself."
– John Perry Barlow, computer outlaw and founder, Electronic Frontier Fund

Expo freebies

- A free NeXT machine! NeXT plans to give away a machine to a lucky attendee of the Expo's developer track.
- Demo disks, T-shirts, mugs, and more! Insignia is handing out copies of SoftPC every hour and HSD is giving away demo software of its OCR Servant. Check out your favorite booths for T-shirt giveaways.
- The NeXT public domain archives, which contain over a gigabyte of NeXT applications, tutorials, newsletters, images, and sounds. You can get the information from the Internet archive servers sonata.cc.purdue.edu, nova.cc.purdue.edu, cs.orst.edu, umd5.umd.edu, and eesun1.uta.edu, or just stop by NeXTWORLD's booth at the Expo.
- NeXTanswers, NeXT's on-line collection of technical support questions and answers, can be had there too.
- NeXTWORLD magazine is available on the servers as well. Come by the booth to download your favorite stories.

Atherton plans Expo launch of news software

by ELIOT BERGSON

Atherton, CA – Another young star has taken time off from NeXT to found a software company and add to the mix of third-party products for the platform, this time with an electronic news reader and a dock-modification utility.

Jason Adams took a leave of absence from his post as strategic developer engineer in November 1991 to found Atherton Software Works and "try out some product ideas and do some programming," he said. He has spent the time developing two products he will demo at Expo this week.

NewsExplorer is an electronic news reader and clipping-service application that automates information retrieval from digital news feeds such as DowVision and Reuters. NewsExplorer can search

for articles in general categories or that contain specific topics or key words, and use an intelligence-like feature that learns the types of articles a user would want to have searched and retrieved.

"NewsExplorer is targeted at people who have, or want to have, information constantly coming in so they can find articles they're interested in," said Adams. Users can compile and produce their own newsletters, he added.

Atherton's other application, Engage, lets a user create a dock with an unlimited number of levels that mirrors work flow. "One level can be files you fax a lot. Another level can be from a design project that uses Illustrator and Icon and some EPS files. When you want to work on that project, you just flip to that level and you're ready to go," said Adams. ♦

OOP modeler targets CFOs

by DAN RUBY

Palo Alto, CA – A high-end business and financial-modeling package under development by Modernsoft could lead to the introduction of NeXT computers into the highest levels of multinational corporations.

Unlike more traditional modeling systems such as Lotus Improv, Modernsoft's EnterpriseWorkstation allows the user to model general business knowledge separately from situation-specific information or data values. Each element of a model is an independent object that can be linked with other objects to build complex but flexible models that can be easily modified and reused. The program is intended for group use across whole organizations.

Because Modernsoft plans to price the software near \$100,000 per site license, it will likely be used only by the largest corporations. Six Fortune 100 companies are already using a prerelease version of the program for enterprisewide business and financial analysis.

Modernsoft categorizes the program as management-engineering software. The key part of the system is its knowledge model, which can operate on data brought in from any other source, including corporate databases and spreadsheets.

"Whereas a database tells you 'what is' and a spreadsheet tells

'what if,' EnterpriseWorkstation allows you to ask 'if what,' " said Lee Hecht, Modernsoft chairman.

The company expects to release EnterpriseWorkstation this summer. Modernsoft will demonstrate EnterpriseWorkstation privately during NeXTWORLD Expo. ♦

SQL tool beefs DBMS options

by LAURIE FLYNN

San Francisco – Proponent is privately demonstrating at this week's NeXTWORLD Expo its upcoming SQL database tool, which has been quietly under development since 1989.

Helping fill a gap in the NeXT software market, the product will provide an integrated set of tools positioned for medium- and large-size companies. It will include both a Designer Tool and a User Tool that connect to the SQL server; the tools include front-end, forms-generation, and other relational database capabilities.

Proponent recently disclosed that SBC/OC Services, a partnership of Swiss Bank Corporation and O'Connor Partners, is providing Proponent with advance fees, and will be the product's first customer when it ships in the first half of this year. Pricing has not been set. ♦

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Hotels:

- Hotel Bedford: 761 Post St., 673-6040
- Holiday Inn Civic Center: 50 8th St., 626-6103
- Juliana Hotel: 590 Bush St., 392-2540
- Hotel Nikko: 222 Mason St., 394-1111
- Pan Pacific Hotel: 500 Post St., 771-8600
- Villa Florence Hotel: 225 Powell St., 397-7700

Moscone Convention Center

Dealers

[CONTINUED FROM PAGE 1]

But other retailers believe the strategy will hurt NeXT in the long run, and that NeXT will invariably have to master the traditional retail channel to meet with success. "If NeXT is going to hit the numbers that they want, they're going to need the dealer channel there, and they need to understand the mind-set of reps bombarded by contests by Apple and DOS vendors," said a former NeXT dealer who asked not to be identified.

Hayes

[CONTINUED FROM PAGE 1]

answering machine, among other applications. However, the new device lacks the capability to act as a standard analog modem.

Hayes currently ships an ISDN product priced at about \$1200, but because the new adapter uses the power of the NeXT Digital Signal Processor, it

The shift has NeXT looking for a different breed of dealer. "We want people who are willing to make a strategic investment, who understand the demands of longer sales cycles and are willing to dedicate themselves to high-end selling," said Arnesen. In practice, the strategy shift translates into dealers who are familiar with outbound selling, focused on key markets, or specializing in networking, connectivity, or multivendor workstations and environments, and

possibly UNIX literate, said Arnesen.

And even though storefronts are no longer considered a critical component of NeXT's dealer strategy, Arnesen said NeXT will continue to support current storefront dealers and woo dealers who can dedicate at least part of their organization to NeXT's new philosophy.

"The shift isn't so much a de-emphasis of the dealer but the way we support the dealer channel," said Arnesen. ♦

will cost less than \$400.

Atlanta-based Hayes is the standard-bearer and market leader in the personal-communications market, and company founder Dennis Hayes has recently been moving the firm toward digital technologies like ISDN.

For NeXT, Hayes's close association will help quiet criti-

cism that NeXT lacks enough name-brand third-party vendors. Easy telecommunications connectivity has long been a weak link in NeXT's product line. The Hayes product, coupled with the long-awaited MicroPhone II communications software from Software Ventures, will help address this concern. ♦

Expo

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debut new products for delivery throughout the first half of the year (see NeXTWORLD, Spring 1992). These announcements include:

- Faster versions of the NeXT – the NeXTstation Turbo and Turbo Color – as well as new, faster configurations of the NeXTcube.
- NeXTstep '486, a shrink-wrapped version of the operating system for Intel '486 machines.
- NeXTstep 3.0, complete with 3DKit, AppKit, and improved international support.
- A high-resolution color printer that breaks the \$4000 mark for color PostScript printing.
- The NeXT CD-ROM Drive, sounding the death knell for the optical disk.

Likewise, third-party exhibitors cover the spectrum of the NeXT market, and new product announcements are expected from more than a dozen companies (see "Expo highlights and fun facts" on pages 2 and 3).

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Editor: Dan Ruby; Managers: Darcy DiNucci, Laurie Flynn; News Editor: Dan Lavin; Staff Writer: Simson L. Garfinkel; Layout: Sue Troy; Copy Editor: Eliot Bergson

Competition hits close to home for Sullivan

Sullivan was making last-minute plans for the Expo when the call came through from the Hill. Those oversight committee boys are a pain in the backside, but the Lieutenant had always found it useful to cultivate his own circle of friends. Now his favorite Senator was on the horn asking, of all things, about the NeXT.

"What's the big deal with this black box?" he asked. It seems the Senator had heard about the new NeXT installation in the Joint Chiefs' office, and then later that same day received an invitation to speak to a convention of NeXT computer users. Of course, the timing couldn't have been worse, with a round of politicking scheduled back home and the new session starting.

"Hey, it's a chance to speak to a receptive audience about information highways and competitiveness," Sullivan countered. "And maybe you can get a loaner out of the deal. It'll help in keeping up with General Powell." "We'll see," said the Senator.

Speaking of competitiveness, there's a lot of action on the database front. Blue Star Technologies is showing off hot database technology in a private Expo suite. Its StarGate & StarBase have agent-administration technology for improved data access and true distributed processing. Database experts say it is a quantum leap over Sybase and Oracle. StarBase's Kanji abilities, also unique, are exciting admirers in Japan. Merle Proulx, author of the first relational database in 1962, is said to be the genius behind this project.

Meanwhile, NeXT has loaned a fully-configured NeXTstation to FairCom, a Missouri-based database company, which is porting its low-priced SQL database server to the NeXT platform. The FairCom SQL server costs \$79 for a single-user license and \$1500 for the unlimited license, yet reportedly has performance that is the same as – or even better than – Sybase for similarly sized databases.

Of course, having NeXT computers installed at a software company is no guarantee of product releases. Witness Aldus's pack of NeXT development stations that are used for prototyping apps to be developed for Macs or Windows. In Ohio, Fox Software's CEO, Dave Fulton, is a NeXT fan, but there is no present plan to produce a FoxBase NeXT product – at least not yet. Instead, aging FoxBase+ for SCO's OpenDesktop will be updated to FoxPro.

Intel

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however, declined to confirm or deny whether it was in discussion to license NeXTstep.

By porting NeXTstep to more industry-standard systems and licensing NeXTstep to major PC vendors, NeXT hopes to shed its proprietary image. "Everybody thinks of us as a closed company, but we're really an open company," said Slade. While Slade wouldn't comment on which other PC vendors NeXT has talked to, he confirmed the company is hoping to sign up numerous OEMs of NeXTstep in the next few months. Slade acknowledged that '486 systems

running NeXTstep will not necessarily be any less expensive than NeXT machines because of the required memory, hard disk, and video.

While the debut of NeXTstep '486 makes NeXT a software supplier, it does not mean that NeXT will become a major seller of shrinkwrapped software. Instead, the emphasis will be on forging relationships with PC vendors who will bundle the software with their systems, said Slade. Whether or not NeXT will decide to package the software separately had not been determined at press time. ♦

Abacus

[CONTINUED FROM PAGE 1]

program goes directly to the execution of the selected program, Mac desk accessories do not function.

Abacus plans to release another product in late February, called Executor-Excel, that will be tailored to – and guaranteed to run – Microsoft Excel for the Macintosh. In addition, a future product will allow users to run any Macintosh program. Future releases will also support System 7.0, color, sound, and printing.

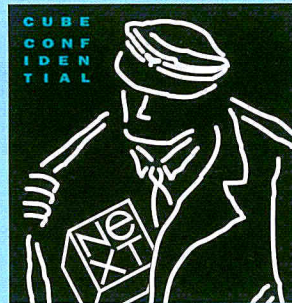
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ARDI is at 1650 University Blvd. N.E., Albuquerque, NM 87102. 505/766-9115. ♦

There is also a competitive market for experienced NeXT developers, the surest sign that the platform has taken off. So far, Boss Logic probably holds the distinction of being the largest NeXT development shop, with 30-something engineers developing products or writing custom software. In hot pursuit is Williams Telecommunications, in Woodlands, Texas, which is looking to add another 35 NeXTstep engineers to the team it has working on a huge wide-area networking project. If you're interested, call Vince Jordan and tell him Sully sent you.

Appsoft wants to corner the talent market down the road, but first it's focusing on republishing deals. That market's heating up, too, with some bidding competition expected from a startup (tentatively called Elegance) that expects to offer as many as five products in its first year. No word yet on its source of capitalization.

Lt. Sullivan



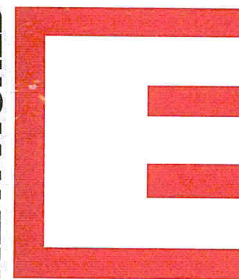
Here's an anticompetition story from the seamy underbelly. After months on the Internet archives, a screen-saver program called Backspace, which was developed by a NeXT employee, has been yanked from shareware distribution. It seems that NeXT management buckled under pressure from third parties, thereby quashing the screen saver many consider to be the best of the current crop. Fortunately, commercial screen-saver programs are able to use the many clever display modules already developed for Backspace.

Even Sullivan has to worry a bit about the competition, which is why he has to make time this busy week for a meeting of the minds with Robert X. Cringely of Pammy fame. Not quite a turf battle, but an exchange of professional advice. Cringe ran some nice items on the ferro-electric flat-panel display and updated Canon magneto-optical technology in InfoWorld. But his timing information has been wildly off base. If you're going to dabble in NeXT rumors, Bob, at least check them out.

He would also have words over lunch with his editor at NeXTWORLD. Be careful with that word processor, pal. No, the news wasn't that NeXT had begun extending credit terms to purchasers, but that it was doing so across the board, rather than secretly and selectively.

The world's best competitive weapon is information. As usual, Sullivan is all ears. Find him all over town this week or forward your tips to sullivan@nextworld.com, 415/978-3196 (fax), or 415/978-3374 (voice). The shirt offer stands.

NeXTWORLD



NEWS IN BRIEF

Adobe Systems announced at NeXTWORLD Expo the Display PostScript Software Development Kit (SDK), a set of materials to help reduce development time. The kit includes DisplayTalk programming software, generic code samples and application notes, and a font package to help developers test font features. The SDK also includes *Programming the Display PostScript System with NeXTstep*, *PostScript Language Reference Manual*, and *Adobe Type 1 Font Format* books. The kit is \$500, or half-price for members of Adobe's developer association. Each piece is also available separately. Adobe: 415/961-4400.

NeXT announced it has signed Florida-based Hetra Computer as its value-added reseller for Tempest products, including the new Tempest NeXTstation Color system. The system includes Hetra's Tempest-certified 20-inch monitor.

Teradata Corporation, of El Segundo, California, and NeXT jointly announced a NeXT DBKit Adapter for the Teradata DBC/1012 database computer, allowing NeXT users to connect to Teradata RDBMS systems. The adapter will be available as an extension to NeXTstep 3.0.

Microtech International introduced a new line of Eclipse internal hard drives for NeXT computer systems. The drives range from 550MB to 1.45GB for NeXTcubes and and 173MB to 431MB for NeXTstations. The drives include RunningBack, software for backing up and restoring NeXT hard drives that lets users create scripts to automate processes. Microtech: 800/626-4276.

Responding to pressure from customers, Lotus Development Corporation announced a volume-pricing schedule for Improv. The four-tiered program offers discounts of 23 to 38 percent on pur-

[CONTINUED ON PAGE 6]

EXTRA

FEBRUARY 1992

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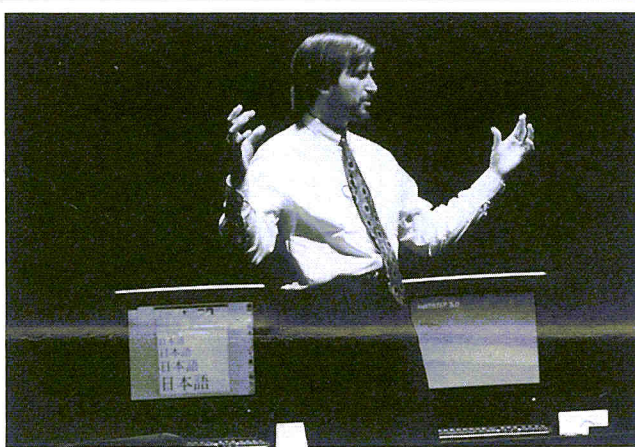
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[CONTINUED ON PAGE 6]



Expo draws over 5000

by DAN LAVIN

San Francisco – More than 5200 NeXT users, developers, and programmers were wowed by the explosion of new products and momentum behind the NeXT platform at the first

NeXTWORLD Expo, held here last month.

"Before Expo I believed in the NeXT vision, but now it is more like a religion," said Florian Gutzwiller, a Swiss reseller and user-group member. Expo attendees came from 47 U.S. states, most Canadian provinces, and 33 foreign countries. Leading the pack from overseas were 70 attendees from Germany, 55 from Japan, and 44 from France. More than 40 percent of show attendees came from outside the San Francisco Bay area.

"The Expo demonstrated that NeXT has finally gained the credibility and momentum to grab the attention of its competitors and the industry," said Jonathan Schwartz, manager of sales and marketing for Lighthouse Design. Schwartz said that the

[SEE EXPO, PAGE 6]

DSP chip not needed in future boxes

by SIMSON L. GARFINKEL

Redwood City, CA – NeXT is expected to drop the Motorola DSP (Digital Signal Processor) chip from its next generation of high-end workstation systems, according to sources close to the company.

Instead of a DSP, the new NeXT workstations will have a central processing unit fast enough to perform all the real-time sound compression and decompression tasks that the auxiliary processor now performs. The new computers will also have an on-board ISDN interface, further obviating the need for a DSP. NeXT declined to comment on the report.

The DSP chip was once considered among the most innovative features of NeXT's computers. Originally billed as a mainframe on a chip,

[SEE DSP, PAGE 6]

The medium was the message

by DAN RUBY

San Francisco –Stalking the stage for 106 minutes in an old-time political stump speech, Steve Jobs opened last month's NeXTWORLD Expo with an upbeat message about NeXT technology and marketing.

Though the keynote served as the official introduction of NeXTstep 3.0, NeXTstep '486, the NeXTstation Turbos, and the NeXT Color Printer, Jobs kept the overflow audience waiting while he reviewed NeXT's 1991 performance and outlined its new marketing strategy.

"Mission-critical custom apps enabled by NeXTstep is our focus and NeXTstep is our compelling advantage," he declared, citing the parade of customers in financial services, government, health care, and higher education who have selected NeXTs for in-house development. Jobs also took direct aim at Sun Microsystems as NeXT's primary competitor.

The first half of the speech was illustrated by

[SEE JOBS, PAGE 6]

Highlights of NeXT
Expo announcements

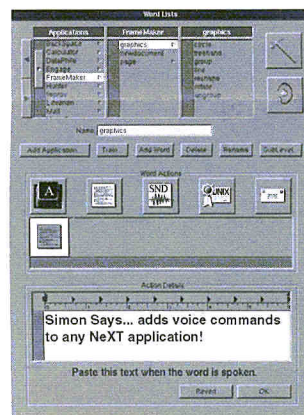
- NeXTstep 3.0
 - 3-D rendering
 - Object linking
 - Localization
 - NeXTstep '486
 - 1991 revenue results
- See inside for details

Simon Says 'get to work'

by ELIOT BERGSON

San Francisco – Above the general hum on the Expo floor last month, the most noise could be heard coming from the HSD Microcomputer U.S. booth, where users crowded around to see a demo of the first voice-recognition utility for the NeXT computer. Simon Says can control any

NeXT application by voice and offers real-time execution. It generates word lists and prompts the user to repeat the phrases three



In addition to giving voice commands to Simon Says, users can create macros with keystrokes, sound, UNIX scripts, and more.

times, then stores the voice pattern in the user's LocalLibrary. It comes with lists of common words used for many applications and also allows the user to customize lists by function or application.

The pro- [SEE SIMON SAYS, PAGE 6]

NeXT sets publishing spec

by DARCY DINUCCI

NeXT planned to announce at the Seybold conference a blueprint and specifications for the NeXT Publishing Environment (NPE), a vision of publishing based on mix-and-match objects for customized systems. Archetype Corporation also planned to demonstrate a publishing engine conforming to the specification at the show, held in Boston from February 18 to 21.

The NPE will document NeXT's vision of how NeXT publishing software should work in terms of user interface, color separation,

workgroup interaction, and other key publishing aspects, according to Ron Weissman, NeXT's director of strategic marketing. A copy of the NPE specification was not available at press time.

"We have two strategies," said Weissman. "The first is to provide great shrinkwrapped tools for the general market. Beyond this, we have a wonderful opportunity for the high end, based on our object-oriented architecture." The latter strategy calls for "fourth-party vendors" providing objects – software building blocks – that can be put into

[SEE PUBLISHING, NEXT PAGE]

running NeXTstep will not necessarily be any less expensive than NeXT machines because of the required memory, hard disk, and video.

While the debut of NeXTstep '486 makes NeXT a software supplier, it does not mean that NeXT will become a major seller of shrinkwrapped software. Instead, the emphasis will be on forging relationships with PC vendors who will bundle the software with their systems, said Slade. Whether or not NeXT will decide to package the software separately had not been determined at press time.

The biggest challenge for ARDI may be in the legal arena, rather than the market, but ARDI President Clifford Matthews said that Apple has not charged ARDI with copyright infringement. "We've always felt our product does not infringe, and the fact they've made no noise yet can only be taken as a good sign," he said. Apple could not be reached for comment.

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O P I N I O N

Will they ever come? Sales and marketing at NeXT

by JOHN PERRY BARLOW

Editor's note: From time to time, NeXTWORLD Extra will devote this space to guest opinions about NeXT technology and marketing. Our first contribution is from NeXTWORLD Contributing Editor John Perry Barlow, who finds that he has more to say than fits the confines of his "Barlow and Lavin" reviews column. As with all signed submissions in NeXTWORLD, the opinions – and especially the language – are uniquely Barlow's own.

This is the third iteration of this column. The first was an intemperate rant; swell fun to write, it was largely unconstructive criticism. It found its way on-line and raised temperatures at both NeXTWORLD and NeXT. This led to a long (and amiable) conversation with Mike Slade, NeXT's director of marketing, followed on December 16 by a lengthy discussion with Steve Jobs. Perhaps I am yet another victim of the famous Reality Distortion Field, but I am now convinced that NeXT has a sales and marketing strategy that will work. I retain some concerns, but I no longer believe that NeXT is ignoring the market.

"If we build it, they will come."

This is, succinctly stated, the Steve Jobs Philosophy of Marketing. I admire it. If you're only producing what some large statistical abstraction appears to think it already wants, you really should be selling sugar water.

It is an approach, however, that requires time, money, patience, and nerve. If you don't address a known market, your flag can be up the pole for a long time before anyone salutes. The wait can be dangerous. The Macintosh was also created more on faith than marketing design, and during the two years that passed before its salvation materialized in the completely unanticipated arrival of desktop publishing, Steve was ousted from Apple.

In the case of NeXT, this lag was further prolonged by a series of painful mistakes – like hitching the cart to a spavined nag like Businessland, or the fact that mighty NeXTstep on top of an '030 runs like a guy with a 200-pound head. Then there was the cultural style of NeXT, which could hardly be called hearty and outgoing.

The black hole

Steve runs NeXT on an older and more shamanic model than anything Dale Carnegie could dig. By charisma, mania, and God-knows-what-all, he drives his little tribe on to what may well be insane greatness – just look at the results. The trouble is, his people are directed inward, riveted on Himself, leaving their backs generally turned on both existing and potential customers. As a result, NeXT has been, like its symbol, a black box.

It takes even longer for people to salute a flag that is almost invisible, and the mysteriously seductive NeXT experience has not been easily come by. Functionally absent from such showcase opportunities as Siggraph, Interop, and Comdex, NeXT seemed to be saying: "If you're cool enough to deserve NeXT ownership, you're also cool enough to figure it out for yourself." Indeed, they seemed to assume you would reach this assessment without ever seeing a NeXT.

And while it may well be that the truly hip in American business didn't need some grinning sycophant of a NeXT salesman all over them like a cheap suit, not all of them were entirely charmed by the alternative. An angry MIS guy e-mailed me:

"A few months ago, while I was consulting for a corporation literally in the backyard of NeXT's headquarters, I put out an RFP for a network of UNIX-based workstations. NeXT was invited to bid, along with several other major workstation vendors. NeXT literally ignored the request, and did not even return our phone calls! Most of the competitors were

in contact with us daily. That type of response builds contempt, not corporate loyalty."

I wish I thought this story were atypical, but I've heard it more than once.

Whatever you think the cause has been, it came down to this: The Wave of the Future, the object-oriented operating system that both Microsoft and Big Pink are millennia away from delivering, has been available for some time, already debugged and running like God's wristwatch – and it has not sold.

Indeed, the world's most elegant computer, just about the greatest thing since group sex, has only shipped some 36,000 units since 1988. Well, now it appears it knew how to sell itself after all. The Mystery Market is revealed at last and turns out to be none other than MIS! Corporations are suddenly using NeXTs to write the custom applications they once wrote on mainframes and PCs.

Trojan Horse

So it is that Steve Jobs, whose nose has been pressed hard against the window of Corporate America for ten years, is being admitted at last. And this time his Trojan Horse is not skulking in through the highly suspect art department, but is being invited straight upstairs.

While there is something about a phrase like "mission-critical custom apps" that pains me painfully in mind of "smart bombs," I have to admit that if my sole objective were to move black boxes, this is probably the best way to do it. My optimism is restored. NeXT is going to make it. Nevertheless, I have several remaining concerns.

First, there seems little in this new game plan for the individuals who, culturally and practically disenchanted with IBM's new Macintosh, are ready to rediscover computing excitement.

Steve had kind of an answer for that one: "We saw Apple start out with individuals and then pound on the door of Corporate America and gradually get in a little through the back door. We saw IBM walk in through the front door, not paying any attention to individuals, and grab the dominant share of individual use. We're going to follow IBM's path. We're going to get our company very successful by selling to corporations and then, as we drive the prices of our products down, we can become more desirable to individuals."

The well-dressed user

But in the meantime . . . ? Sorry, Charlie. I'm reminded of the time NeXT proposed selling exclusively to higher education, and someone asked Jobs how a nonstudent could get one. "Matriculate," he replied crisply. The answer now might be, "Buy a suit."

As to NeXT's recently acquired dealers, it seems apparent they will end up twisting slowly in the wind. But of course, that may be the future of most storefront computer dealerships in any event.

On the brighter side, NeXT's willingness to employ the Sun model of selling directly to corporate and governmental bureaucracies might lead, once the machine is a better-known quantity, to a Dell model of selling directly to individuals. One can only encourage them to advertise that 800 number sooner rather than later.

I suppose, though, my greatest concern is for the soul of NeXT. It is invariably true, as Mitch Kapor learned at Lotus, that companies come to resemble their markets more than their makers.

I can think of no exceptions to this rule. Consider the cultural transformation of Apple after it pegged its sights on corporate sales. Or the staid flavor of DEC. Or the tight resemblance between hackers and UNIX-weenies inside or outside Sun. Given that this rule exists, one should choose his markets with a measure of personal aspiration.

I was already somewhat concerned on this account over large NeXT purchases by the Royal Canadian Mounted Police and the Los Angeles County Sheriff's Department. And I would have been alarmed to learn that the CIA has sent over 40 employees to NeXT Developer Camp if I hadn't figured the cultural resemblance between The Company and NeXT to be striking enough already.

But MIS!? Steve may find his company going down IBM's path in more ways than one. After so many years of corporate rejection, he may have acquired sufficient VP-ness Envy to welcome this prospect – but it's a grim realization for an unreconstructed hippie like myself.

The Mystery Market is revealed at last and turns out to be none other than MIS!

Publishing [CONTINUED FROM PREVIOUS PAGE] service by end users or third-party vendors to build custom environments.

Archetype, of Waltham, Massachusetts, will show a demo version of a document object that conforms to the NPE specifications. Paul Trevithick, president of Archetype, described the object as "a document engine." "It's a module that you can build publishing apps on top of. It provides a standardized notion of what a document is," said Trevithick. "It

includes capabilities for reading, composing, editing, displaying, and saving, but it has no user interface."

Among the benefits of using the object is that applications will be able to exchange and edit formatted documents, said Trevithick. The object also provides low-level support for concurrent multiuser access to the same page of a document. Trevithick also claimed that using the document engine would allow developers to create applications two to five

times faster than the time it would take if they created their own document objects.

Archetype expects a large market for its object kit among systems integrators as well as from developers of shrinkwrapped software. "It's hard for systems integrators to add the glue to put a system together when the pieces weren't meant to be building blocks," said Trevithick. "This type of object, like DBKit, will allow integrators to create tightly integrated systems that fit specific needs."

Archetype is planning to demonstrate its technology at Seybold in the form of a page-layout program based on their document engine. "The goal of showing at Seybold is to find developers, people who will work on top of this," said Trevithick. The ship date and pricing for the object kit, which will consist of the object and a toolkit for working with it, was not announced at press time. Archetype also expects to ship shrinkwrapped software based on the object some time in the future.

Trevithick said Archetype has been working on its object for seven years, having started out using Objective C on a DOS machine. He added that Archetype markets its own design program, X, on the DOS platform, and has built programs for and licensed the underlying technology of this object to other software companies.

Pages Corporation is reportedly working on a set of publishing objects of its own, called DOL, or Document Organization Language. ☐

Canon mal

by DAN LAVIN

San Francisco – Canon arrived in force at the NeXTWORLD Expo led by Dr. Keizo Yamaji, the company's worldwide president, who made a rare public appearance to show Canon's commitment to the NeXT platform and demonstrate new Canon technology.

"We are committed to NeXT as a keystone in our computer strategy," said Dr. Yamaji, who added that Canon has "personal trust" in Steve Jobs. Canon is NeXT's exclusive distributor throughout Asia and the Pacific. NeXT announced that it will sell a version of Canon's color printer, a \$3495 model based on Canon's bubble-jet technology. In his keynote comments, Dr. Yamaji also made a surprising reference to Canon providing NeXT with

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by PAUL KARON

San Francisco – In a formal, independent study comparing NeXTstep with competing development environments, programmers surveyed overwhelmingly ranked NeXTstep superior in a major aspects of the programming process – from speed of development to the quality of applications produced.

The results of the study conducted by Booz-Allen & Hamill were released at NeXTWORLD Expo. The study surveyed more than 100 programmers experienced with NeXTstep and other workstation environments, primarily Sun, Macintosh, and DOS.

"The numbers are important but the really compelling thing that the developers are excited said Jeffrey Blake, coauthor of the Booz-Allen study. "Most of the developers said NeXTstep was the best environment they ever worked in."

Some key findings of the study:

- More than 90 percent said the applications they developed in NeXTstep were of higher quality than those developed on other platforms.
- Application development in NeXTstep was often at least twice as fast as other environments – and sometimes as much as nine times faster.
- All of the respondents with experience in both NeXTstep and Sun's OpenLook said development was significantly easier

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Canon makes big splash at Expo

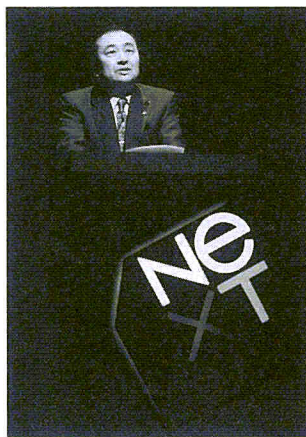
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its new FLC flat-screen technology. Observers speculated that the new screen could be tied to a possible NeXT laptop.

Several other vendors demonstrated Canon-based technology. VJE, a Japanese third-party developer, demonstrated a Japanese word processor for the NeXT, which it showed in conjunction with a new English-Japanese dictionary on CD-ROM. Canon demonstrated the CLC 500 Canon Laser Copier working with the NeXT machine, a package Canon USA sells as part of a continuing publishing-VAR relationship. The company also showed a prototype Japanese voice-recognition program and an ISDN (Integrated Services Digital Network) and G4 fax server, both of which it described as "proof-of-concept" technology



Canon President Dr. Keizo Yamaji said NeXT was the "keystone of Canon's computer strategy."

demonstrations. Canon also disclosed it has translated the popular Diagram package from Lighthouse Design. ♦

Study shows programmers like NeXTstep

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- Application development in NeXTstep was often at least twice as fast as other environments — and sometimes as much as nine times faster.
- All of the respondents with experience in both NeXTstep and Sun's OpenLook said development was significantly easier

and faster on the NeXT, and 97 percent said NeXTstep produces better applications.

The programmers were asked to rate NeXT and the other development environments in various aspects of overall application quality, maintainability, integration, end-user satisfaction, and other areas.

Booz-Allen proposed the study; NeXT paid for it and provided lists of developers. NeXT conceded it had some input to the study design, but Booz-Allen controlled the study and chose the programmers surveyed.

The study also asked respon-

dents to rate the environments in terms of "development risk" — the possibility of abandoning or failing to finish a project. Three-quarters of those surveyed said development on the NeXT was comparatively "low risk." And some developers said they had written software on the NeXT they would not have attempted to create on another platform, according to the study.

The authors of the study said respondents frequently cited NeXTstep's Interface Builder, Application Kit, and Display PostScript graphics as key advantages of NeXTstep. ♦

Multimedia authoring arrives

by CLAIR WHITMER

San Francisco — Attendees of NeXTWORLD Expo were able to compare the features of two multimedia authoring packages that promise to bring HyperCard-like functionality to the NeXT computer.

Only a month from shipping, Xanthus sold 40 beta copies of its CraftMan on the floor. CraftMan provides authoring and interface tools that allow users to build simple, object-oriented programs for presentations; training applications; prototyping; demonstrations; as well as front-end interfaces for other programs, such as Lotus Improv.

The basic tool palette is mod-

eled on Interface Builder, but CraftMan includes an object-oriented interpretive scripting language named CraftScript, based on Objective C.

The corporate price for the package, including a free runtime version that can be redistributed without licensing, sells for \$1495. The higher-education price is \$295.

Thoughtful Software was also showing a beta version of its HyperCube, although the company said it's still at least four months from shipping. When available, the HyperCard-compatible product will include a scripting language based on HyperTalk. A tentative price is set at \$495. ♦

Heard and overheard

Best lines

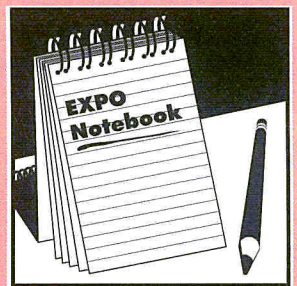
Heading up the list of instant classics among NeXTWORLD Expo bon mots was this Steve Jobs keynote line: "The goal used to be to put a computer on every desk; now the goal is to put only one computer on every desk." Ah, the joys of interoperability. Surprise — even Steve Jobs has a mother. But in his case it's Sun Microsystems, to Steve "The Mother of All Competitors."

Coming clean

Avie Tevanian, director of NeXT system software: "You can be reasonably well assured that when you play back a sound file it will play back [in real time]. Of course, that's not guaranteed, because nothing is guaranteed on our system." And just who can you trust these days? NeXT Director of Marketing Mike Slade, late of Microsoft, told Expo attendees: "I used to give speeches about how great (OS/2) was. Guess what? I was lying." Mike's definition of a SPARCstation? A "\$26,000 radiation field."

Market value

At a live auction to benefit NeXT user groups, an original signed copy of Paul Rand's graphics book showing the artistic evolution of the NeXT logo sold for \$350. Three couples ponied up as much



as \$950 each for an evening of friendly banter and dinner with Steve Jobs.

Hot boxes

Despite NeXT's new-found popularity among customers, the sleek black machines are still lagging on the black market. After NeXT staffers had boxed up the computers used during Jobs's keynote (two color NeXTstations, a fully loaded Compaq 486 PC, Mac IIci, SPARCstation, and Teradata, Sequent, and Pyramid mid-frames), some guileless slob had the gall to swipe one of the computers. We can't figure it out either, but the thief opted for the Mac. It should also be reported, though, that at least one NeXTstation evaporated from the show floor under a similar, unauthorized 100 percent discount — sort of a cash-and-carry deal without the cash.

— Paul Karon

Users mobilize at Expo

by KRISTEN DYER

San Francisco — An estimated 400 users from as far away as Russia and Hong Kong represented over 100 user groups at the first NeXTWORLD Expo. Catching up on the latest and greatest technology, they exchanged ideas for improving user-group support and the NeXT platform.

At an organizational breakfast for NOIR (NeXT Organizations International), an umbrella user-group association, ideas discussed included creating international mailing lists, on-line forums, and archive sites to continue the exchange of information.

About half the user groups worldwide have formally joined the new association.

NeXT CEO Steve Jobs, speaking at a keynote event for NOIR, said he considers user groups crucial to NeXT's success and plans to give full sup-

port to requests from Conrad Geiger, NeXT's international user-group manager. "Let us know what we screwed up on," said Jobs at a keynote event for NOIR held at the Expo. Three NeXT vice presidents also expressed their gratitude to users for helping to promote and improve NeXT.

Jobs's affinity for user groups goes back to his involvement with the Home Brew Computer Club, where the idea for Apple Computer was born. According to Jobs, there are now more than 250 NeXT user groups worldwide, with more than 15,000 total members.

While many user-group members made good use of developer session passes, others helped make the Expo happen. User-group members made up the majority of the 250 volunteers, who donated more than 1500 hours to organize and staff the show. ♦

N E X T A T T H E E X P O

Object linking in 3.0

by SIMSON L. GARFINKEL

San Francisco – Leaving Apple's Publish & Subscribe and Microsoft's OLE (Object Linking and Embedding) in the dust, Steve Jobs unveiled NeXTstep 3.0's facility for document linking here at NeXTWORLD Expo.

Document linking works like cut and paste, except that the information pasted from one document into another is automatically updated whenever the selection inside the first document is changed.

The new system also allows direct linking between documents, including the insertion of

hypertext-like buttons in one document that automatically cause other documents to be opened in other applications.

A new NeXTstep Link Inspector lets the user decide if links should be updated either continuously, automatically when the source document is saved, or manually. The updating works even if the source and destination documents are being edited by different users.

Links may be saved in files and incorporated at a later time into other documents, similar to Apple's Publish & Subscribe. Although application programs

must be specially modified to work with object linking, the modifications are minor, according to Jobs. Both Draw and Edit, two of NeXT's bundled applications, were

modified to support linking in less than three days each.

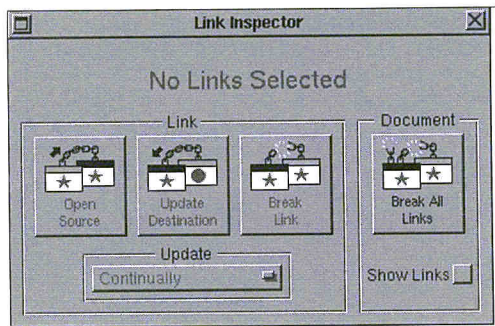
Furthermore, as with NeXTstep's Services menu, an application that supports linking is guaranteed to interoperate with every other application.

"We want to enable apps to work together without prior knowledge," said Trey Matteson, one of the Application Kit programmers at NeXT.

"No program can have the best draw tool and the best mail tool," said Matteson. The new document linking "allows users to assemble their tool sets from a set of different applications."

"It just cut the development time for my next product in half," said Karl Kraft, lead developer at Ensuing Technology of Las Vegas.

NeXTstep 3.0 also allows users to drag and drop graphics and other information directly from one application to another without going through NeXT's Workspace application. It further supports conversion filters, which allow third-party programs to automatically convert their file formats when moving data from one application to another. ♦



The new Link Inspector lets users choose an updating method.

NeXTstep 3.0 delivers photorealistic 3-D function

by LEE SHERMAN

Redwood City, CA – By including the RenderMan standard for 3-D graphics in NeXTstep 3.0, NeXT has made it possible for photorealistic 3-D graphics to be included in productivity applications such as spreadsheets, word processors, and presentation packages for the first time.

The new technology, from Richmond, California-based Pixar, will allow the business community to visualize data in new ways, according to NeXT CEO Steve Jobs. Spreadsheets will become truly three-dimensional, and complex relational databases will be more easily understood.

NeXT users will be able to choose between interactive rendering, in close to real-time, and photo-realistic rendering that can produce much higher-quality graphics but can take as much as several days of intensive processing to complete.

"Photo-realistic rendering is going to be very important in the 90s," said Jobs in his NeXTWORLD Expo keynote address.

Jobs conceded that the version of RenderMan offered with NeXTstep 3.0 has "some of the switches turned off," presumably to prepare NeXT for future generations of NeXT hardware, such as the long-rumored RISC-based machine (see "NeXT settles on Motorola RISC chip," Page 1).

Interactive RenderMan, developed jointly by NeXT and Pixar, is designed to take advantage of increases in CPU processing speed. "As NeXT makes its workstations faster and faster, Interactive RenderMan will become truly interactive," said Pam Kerwin, vice president of marketing and sales at Pixar.

For developers, the inclusion of a standard architecture for 3-D graphics means that they can concentrate on providing usable interfaces to their 3-D modelers, while RenderMan handles the rendering itself. "If you're a NeXTstep programmer now, you can become a 3-D programmer," said David Springer, 3-D graphics project manager at NeXT.

Springer said NeXT's goal for 3DKit was to provide the guaran-

teed availability of 3-D graphics and seamless integration with the rest of NeXTstep.

Distributed processing is another component of the 3DKit. A week prior to the NeXT announcement, Pixar demonstrated NetRenderMan at Macworld Expo. NetRenderMan is a network version of RenderMan that allows UNIX machines, including the NeXT, to act as RenderMan servers to Macs over Ethernet. Currently, NetRenderMan requires both ends of the connection to be running the network-based version of the software, but when NeXT releases 3.0, only the Mac client will be required, according to Springer. ♦

NeXTstep '486 debuts

by LAURIE FLYNN

San Francisco – The availability of NeXTstep for the installed base of Intel '486-based machines could give NeXT more inroads with corporate customers by providing an important checklist item for IS managers.

"This gives [MIS directors] the safety net they need," said Jonathan Seybold, publisher of the *Desktop Publishing Report*, in Malibu, California.

According to NeXT CEO Steve Jobs, the software will appeal to IS managers because it protects the installed base while giving users what they want in software. "It'll make them [managers] look like heroes," said Jobs.

"It's really going to help NeXT success, because it's going to remove the fear of NeXT in the marketplace," said Rob Wilen, vice president of SBCOC, a Chicago trading firm and NeXT customer. "It's also going to be a terrific thing for the large corporate customer in environments with commitments to the Intel platform, and who are unable to move entirely to the NeXT platform."

NeXT plans to sell the software as both a shrinkwrapped product and through PC vendors as an OEM product. NeXT executives declined to say which PC vendors have agreed to offer NeXTstep '486.

Scheduled for release in the third quarter, NeXTstep '486 will cost \$995 for the user version and \$2495 for a developer version. The software is the same as that for NeXT computers and includes bundled applications and facilities, ensuring full interoperability with DOS, Macintosh, and UNIX systems, said NeXT executives.

Several developers, including



Intel's Ron Whittier said it's been a long courtship with NeXT.

Word Perfect, Adobe, and Lotus, have already ported their NeXTstep software to NeXTstep '486. The time required to port ranged from as little as two hours to a few days, said Jobs.

But running NeXTstep '486 won't be cheap. The user version will require a minimum of 8MB of RAM and a 120MB hard disk. Jobs estimated 50MHz '486-based systems optimized for NeXTstep '486 will cost between \$12,000 and \$14,000.

And while the software will run on the current crop of '486 machines equipped with Super VGA, high-speed graphics will require new graphics technology under development by PC vendors. Those technologies include EISA (Extended Industry Standard Architecture) color graphics boards and, more significantly, PCs that incorporate their graphics memory on the processor bus, like those under development at Dell Computer.

NeXT's relationship with Intel comes after a long courtship with NeXT that dates back to Jobs's days at Apple, when Intel was fighting to supply the microprocessor for the Mac. "We've been courting Steve for more than ten years," said Ron Whittier, vice president of Intel's software group, adding that the current relationship is a sign of broad changes in the industry. ♦

NeXT developers

by CLAIR WHITMER

San Francisco – Hoping to create a forum for NeXT developers to talk with each other and NeXT's coterie of developers launched the first independent NeXT developers' group, the Association of NeXTstep Developers' International (ANDI) at NeXTWORLD Expo.

The founding members, including a seven-member board of directors, introduced themselves at a recruitment breakfast that attracted about 175 attendees.

ANDI's purpose is to provide a channel for developers to discuss technical and marketing questions and to build a consensus on issues that affect the developer community.

The fledgling organization, which has applied for nonprofit status, awaits post-Expo feedback before announcing a platform. But suggested services include an international directory, dial connection, with access to the Internet; an on-line library for sharing source code and marketing information; the publication of white papers; and the creation of a liaison, particularly for small developers, between NeXT developers and NeXT. ANDI also welcomes dealers and user groups to join.

"We want to be very clear about having compelling benefits or it won't work," said Bruce Webster, ANDI's president.

Executive Director William Strehl estimates that ANDI will spend about \$50,000 a year to maintain and run the network.

ANDI plans to be financially independent of NeXT, relying on dues and donations to cover operating costs. Stone Design, for example, contributed an unsolicited donation.

NeXT names

by LAURIE FLYNN

Redwood City, CA – NeXT Computer recently named Michael Gani, a former Intel executive, as its chief financial officer, overseeing NeXT's financial management as well as the company's information systems.

In his 12-year tenure at Intel, Gani, 39, held several financial positions, including director of finance and administration for Intel's European and Asian divisions. He also served as assistant treasurer at

New pricing lineup for selected configurations

	NeXTstation "Classic"	NeXTstation Turbo (base configuration)	NeXTstation Turbo (typical configuration)
B&W	\$4995* (8MB/105MB)	\$5995 (8MB/250MB)	\$6995 (16MB/250MB)
Color	\$7995* (16MB/105MB)	\$8995 (16MB/250MB)	\$9995 (16MB/400MB)

* Price unchanged

3 debuts



Jobs said it's been a long courtship with NeXT.

ord Perfect, Adobe, and Lotus, ve already ported their :XTstep software to NeXTstep 3.6. The time required to port rged from as little as two hours a few days, said Jobs. But running NeXTstep 3.6 isn't be cheap. The user version ll require a minimum of 8MB of RAM and a 120MB hard disk. s estimated 50MHz 386-based ems optimized for NeXTstep 3.6 will cost between \$12,000 d \$14,000.

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Configurations

NeXTstation Turbo
(typical configuration)
\$6995 (16MB/250MB)
\$9995 (16MB/400MB)

NeXT developers band together

by CLAIR WHITMER

San Francisco – Hoping to create a forum for NeXT developers to talk with each other and NeXT, a coterie of developers launched the first independent NeXT developers' group, the Association of NeXTstep Developers' International (ANDI) at NeXTWORLD Expo.

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Executive Director William Strehl estimates that ANDI will spend about \$50,000 a year to maintain and run the network.

ANDI plans to be financially independent of NeXT, relying on dues and donations to cover operating costs. Stone Design, for example, contributed an unspecified amount of money for the launch breakfast.

Although Strehl said that 460 developers (including several non-NeXT developers at UniForum), expressed interest in joining during the show, ANDI's fate is unclear. Before the breakfast, the organization's board eased tensions over control of the organization by forming a U.S. chapter, called NeXT IDEa, leaving ANDI to function as an umbrella group.

And already the group has to battle concerns that its stance will be confrontational. "There are people in the group who want it to be political," said Charles Perkins, a founding member of ANDI. But so far, he added, NeXT itself has been supportive. "We like developers' forums. As long as it's a constructive organization, it's very positive," said Chris MacAskill, NeXT's manager of developer relations. For more information, call 301/681-3932 or send e-mail to strehl@socrates.umd.edu. ♦

San Francisco – Trumpeting a four-fold increase in sales last year, NeXT CEO Steve Jobs disclosed during his Expo keynote sales of \$127 million during 1991. The results reflected a successful transition into the commercial market and substantial growth in international markets from 1990.

During 1991, NeXT's sales to the commercial and business sectors grew to 81 percent, up from 62 percent in the beginning of the year, while Asian and European sales accounted for 43 percent of sales. In a first-ever prediction, both Jobs and Director of Marketing Mike Slade predicted "doubling" sales in 1992.

The disclosure drew generally good reviews from the financial community. "It is good news, and they are doing a good job of positioning themselves as the only commercially available object-oriented development environment," said Bruce Lupatkin, managing

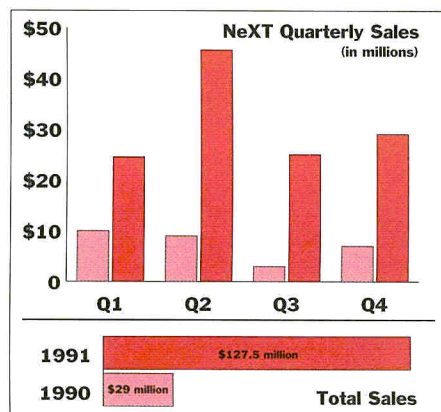
NeXT discloses financials

by DAN LAVIN

director of technology research for Hambrecht and Quist, a San Francisco-based brokerage house.

However, in its usual fashion, NeXT released only a selective set of results, making full analysis of the privately held company difficult. "I did see the revenue figures but I didn't see anything on profitability, which is a telling thing," said Lupatkin. NeXT also declined to divulge the number of machines it has sold.

But based on an estimated average selling price of \$6700 per machine during the second half of the year, combined with earlier estimates for the first half, NeXT shipped an estimated 20,000 units in 1991. This number is just above the minimum



threshold several analysts have cited for viability in the workstation market.

According to Slade, NeXT's poor showing in the third quarter was a result of the recession. He noted that sales increased throughout the fourth quarter, peaking in December, which points to strong sales into 1992.

The numbers also revealed a dip in European sales relative to total sales: While European sales grew from 30 percent of total sales during the first quarter to 49 percent in the second quarter, they dropped to 44 percent for the second half. Slade credited these figures to unevenness in NeXT's new European channels and emphasized that actual sell-through to customers increased through the end of the year, which he said will lead to a strong 1992 for Europe. ♦

Developers get localization help in 3.0

by ELIOT BERGSON

San Francisco – Updates in NeXTstep 3.0 will make it easier for developers to internationalize their applications, but it remains to be seen if third-party developers will take advantage of these features and produce what Steve Jobs called in his keynote at Expo "one version of every app" for the entire world.

Most NeXTstep applications are actually packages – directories – that contain the application as well as a number of files used by the program, such as .nib files from

Interface Builder, or EPS and TIFF images. In NeXTstep 3.0, developers will have to place all .nib files in special "language project" directories, according to Paul Hegarty, NeXTstep software director.

NeXTstep 3.0 features an improved version of NXLocalString, which programmers can use to tag text strings in dialog boxes and alert panels, and a new development program called gen-string, which searches a program's source code and extracts a list of all NXLocalString phrases. These and other improvements all but force developers to provide for internationalization from the start, according to Hegarty. Lists of phrases can then be brought to a professional translator.

But theory and practice differ, according to several developers at Expo. "People aren't really interested in translations. They say, 'No, we're used to English now – it's no big deal,'" said Jonathan Tilley, a software engineer working on a 3-D modeler with Topline Communication of Southampton, England. Users are more interested in a program's function than what a specific term in an alert panel might mean, he explained.

"The problem for me is the manual," said Andrew Stone,

president of Stone Design of Albuquerque, New Mexico, who has localized his Create program for French, German, and Spanish. "We'd have to see enough volume coming out of a certain country to translate the docs. We've done the first step." ♦

Pages tabs new CEO from Aldus

by DAN RUBY

San Diego – Although its much-anticipated page-design software was not shown publicly at NeXTWORLD Expo, Pages Software was busy announcing business developments: a \$3.5 million venture capital deal and the choice of Aldus vice president of marketing Larry Spelhaug as Pages's president and CEO. While at Xerox Corporation, Spelhaug directed the acquisition and launch of Ventura Publisher.

"The move to Pages is a unique opportunity to lead the next era in document processing," said Spelhaug. "The company's products represent a technology breakthrough that will give Pages the lead in expanding the market for document-processing software."

The financing deal was led by Paragon Venture Partners of Menlo Park, California (see NeXTWORLD Extra, October 1991), and attracted two additional venture capital funds – Enterprise Partners of Newport Beach, California, and Battery Ventures of Boston, Massachusetts – to join in providing Pages with its first round of capital financing.

Pages demonstrated a prototype of its first product early last year but has not demonstrated recent versions of the program. The company said that the first product will ship on the NeXT platform later this year, and that it is designed for quick porting to other operating environments.

Pages is located at 3914 Murphy Canyon Rd., Ste. A-160, San Diego, California, and can be reached at 619/492-9050. ♦

NeXT names Gani new CFO

by LAURIE FLYNN

Redwood City, CA – NeXT Computer recently named Marcel Gani, a former Intel executive, as its chief financial officer, overseeing NeXT's financial management as well as the company's information systems.

In his 12-year tenure at Intel, Gani, 39, held several finance positions, including director of finance and administration for Intel Europe and European treasurer. He also served as assistant treasurer and as

director of internal audit for Intel. Most recently, Gani worked as director of finance and treasurer for Cypress Semiconductor.

In other management news, NeXT said it has appointed Gary Moore to the newly created position of vice president of law and business development. The 48-year-old Moore had previously been NeXT's general counsel, a position he held since 1988. Moore is succeeded as general counsel by Doug Ebersole, NeXT's associate general counsel since 1989. ♦

B R I E F S
C o n t i n u e d

chases of 24 or more copies of the spreadsheet program. Lotus: 617/577-8500.

Quest has produced the first NeXT-specific MIDI interface products. Midilink and Midilink+ attach to a serial port on the back of any 68040 NeXT computer, allowing musicians to work with industry-standard MIDI devices such as synthesizers and drum machines. Quest: 604/656-8644.

NeXT's developer-support group plans to revamp its current pricing structure for developer-support services within the next few months, according to Kate Smith, manager of the development-support team. Services are currently available only to people who have attended developer classes, which cost between \$995, for registered developers, to \$1500. Though specifics were not available at press time, support will be available on a pay-per-question basis or through a paid support subscription unfiliated with developer-class attendance.

NeXT plans to announce the release schedule for Kanji NeXTstep in the U.S. market within the next two months, according to NeXT representatives. Kanji NeXTstep, noted for its breakthrough implementation of in-line entry of Kanji characters, has been available in Japan since July and has attracted software ports from several third-party vendors, including Lighthouse Design and Pages.

Toshiba has lowered the price of its 2.88MB extra-high-density floppy disks by about 25 percent. A package of five now costs \$30; a pack of ten costs \$59. Toshiba: 714/455-2000.

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Editor in Chief: Dan Ruby; Executive Editor: Laurie Flynn; News Editor: Dan Lavin; Staff Writer: Simson L. Garfinkel; Layout: Sue Troy; Copy Editor: Eliot Bergson

Expo

[CONTINUED FROM PAGE 1]

Lighthouse booth on the show floor experienced "heavy" traffic.

Attendees viewed the wares of 80 exhibitors on 13,000 square feet of floor space. The throng included a large contingent of uncounted registrants from the UniForum show being held concurrently at Moscone Center.

A three-day developer conference that was planned for 300 attendees attracted 595 before registration was closed the afternoon of the first day. The two-day user conference also drew twice the planned number of

Jobs

[CONTINUED FROM PAGE 1]

slides designed personally by Jobs in Lighthouse Design's Concurrence software. The second half was vintage Jobs, featuring elaborate live demonstrations of new products and technology, including:

- Use of NeXTstep 3.0's Novell and Macintosh networking features to build a collaborative document over a mixed network comprising a PC, Mac, SPARCstation, and NeXTstation.
- Two applications sharing data through 3.0's object-linking feature to automatically update an organizational chart.
- Construction of a sophisti-

cated database system using the new DBKit to graphically query a Sybase database running on servers from Pyramid, Teradata, and Sequent.

"The show exceeded our wildest expectations," said Mike Slade, NeXT's director of marketing. Slade noted that the Expo was larger than the first Macworld Expo, even though the Mac installed base at the time was four to five times the size of the current NeXT installed base. According to event management, the show, even in its first year, was larger than the median for all trade shows in the United States. ♦

cated database system using the new DBKit to graphically query a Sybase database running on servers from Pyramid, Teradata, and Sequent.

- Interactive 3-D rendering using the RenderMan technology built into NeXTstep 3.0.

The only glitch in the performance came when the DBKit demo crashed during a query to the Teradata server.

NeXT watchers hoping for the naming of NeXTstep '486 OEM partners were disappointed, but Jobs showed the system running on '486 systems made by Compaq and Dell. ♦

DSP

[CONTINUED FROM PAGE 1]

NeXT hoped developers would use the DSP for sound and music applications. The chip could also be programmed as a general-purpose computer, raising the possibility that developers would program it for computationally intensive tasks. But few applications to date have made use of it.

"No one has figured out how to use the DSP anyway," said Michael Slater, editor of *Microprocessor Report*, a newsletter based in Sebastopol, California.

NeXT is following an industry-wide trend of replacing special-purpose processors with

faster general-purpose chips.

If NeXT's future system is as fast as insiders expect, it may also be able to provide the real-time video compression that had originally been promised for the NeXTdimension. It was not delivered due to problems with another special-purpose integrated circuit being developed by C-Cube Microsystems.

NeXT's future system is expected to cost substantially more than its current workstations and will complement rather than replace the existing product line. The NeXTstation line will continue to support the DSP. ♦

Simon Says

[CONTINUED FROM PAGE 1]

gram is particularly useful when lots of applications are open, to call out a particular icon, according to Jack Reynolds, HSD's vice president of marketing. "In fact, the dock is no longer necessary, and that increases screen real estate," he said.

Users can create macros that include sounds, keyboard strokes, UNIX shell commands, pasteboard libraries, and NeXTmail messages. Users can, for example, save their name and address as the word "signature," and have Simon Says add those lines to all e-mail messages simply by saying that word.

"This tool will completely change the way people work with computers," said Reynolds. "People have to understand, though, that the program is not a replacement for the keyboard or mouse. What it does do is increase the bandwidth to interact with the machine more quickly," he explained.

Simon Says works with the NeXT's built-in microphone or any headset or tie-clip microphone. It was snapped up by about 150 eager users at a special Expo price but will be available by mid-March for \$295. HSD can be reached at 800/848-5522. ♦

The best disguise was no disguise at all

While the band played on, Sullivan held court over a snifter and a cigar upstairs at the Press Club. It was well and good that his employers at NeXTWORLD wanted to throw a party for 200 of his best sources, but they didn't stop to think about his cover. No problem — the club library provided a modicum of privacy and plenty of overstuffed chairs.

A trio of Sullivan confidantes was sharing gossip from the show floor. The hacker among them was all atwitter about the upcoming RISC systems: Having spent the morning clicking through the browsers of the NeXT systems demo'd on the floor, he was amazed to stumble across multiple copies of the Motorola 88110 cross compilers. It seems the RISC port is already underway, probably for shipment before year-end.

The second mole was full of information about third-party software. He had buttonholed David Pollack of Athena Design for an early peek at his secret spreadsheet project. Code-named "Mesa," it is fully 1-2-3 compatible down to the macros, a first on the NeXT platform. Among others who saw this amazing app were representatives of Adamation, Appsoft, Elegance, HSD, and Pages. Appsoft promptly offered a contract and apparently Elegance is considering doing so as well.

Appsoft wants to move quickly after fumbling its shot for the most-talked-about (as well as most-talked-to) new app of the show, HSD's Simon Says. It seems that Appsoft neglected to reply to an e-mail message from developer Greg Cockcroft of Agog Software and the next thing they knew HSD was the biggest draw on the floor.

There was also an interesting new twist on the sorry PowerStep saga. Obviously, Borland isn't interested in the NeXT platform (one exec told Sullivan he would rather stick needles in his eyeballs than sell a NeXT product). But why wouldn't the company want to sell or license the technology elsewhere? One theory is that the company would rather kill good technology than permit any possible future competition in the Windows market. A better explanation is that Borland simply lost the source code. Be careful with that recycler, guys.

Over at Adobe, the booth staff found themselves fielding a lot of questions about Photoshop even as they were approaching NeXT about support for porting it. Adobe had seen the lovely materials from Quorum introduced at UniForum and wanted to use their porting expertise to bring Photoshop over but wanted some help with the price tag. While NeXT had not yet officially responded to this

request, Quorum's Sheldon Breiner walked up to Steve Jobs on the Expo floor and asked if he'd help out with a joint project. Let's just say that Steve, apparently still fuming over past arguments with Quorum, was less than cordial.

Another of Sully's boys chimed in with new developments in the distribution channel. It seems that NeXTConnection may be in for some competition after the entrepreneurs behind the Macintosh direct-mail house Dr. Mac took a stroll around the Expo floor. While the "Dr. NeXT" name is not officially announced, the doors are already metaphorically open and NeXT-platform products are now being sold and distributed.

Lt. Sullivan



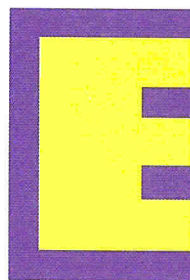
When the conversational ball rolled around to Sullivan, he observed how easy it was for him to lay low at the show itself, where his trim figure blended well with the CIO types NeXT brought in for a meet-and-greet with Steve. The law-enforcement types alone were a match for those at any Justice Department soiree. Mix in a dozen or so of the only people more security-conscious than the heat — the data-processing barons of Wall Street — and hardly anyone was willing to say anything of substance to anyone else. Suffice to say that Sullivan was able to circulate unnoticed in the VIP lounge before the keynote.

Among customers, the buzzwords were multiprocessor NeXT systems and document architectures — anything but their own mission-critical custom apps. Among senior NeXT executives, the nervous talk centered on the looming reorg. With the new sales and marketing strategy in place, the directors and VPs are expecting a major realignment.

Part of the new structure may involve a new president, a position now being recruited by a top head-hunting firm. Sound familiar? With Wall Street's perception of the firm a top consideration, the board came to the conclusion that day-to-day, detail-oriented management is not Steve's strength. Does that mean more sugar water? More walks in Central Park? Maybe so. But one assumes that this time Steve has learned something. This time the new president will be someone who shares the vision and is not simply out for a power grab.

Were you completely satisfied with the T-shirts you finagled at Expo, or would you like another prize acquisition? A Lt. Sullivan t-shirt signed by Steve Jobs is yours for the price of a hot tip. Spill the beans to sullivan@nextworld.com or call his voicemail at 415/978-3374.

NEXTWORLD

NEWS
IN BRIEF

NeXT Computer has begun shipping its new line of Turbo workstations, announced at NeXTWORLD Expo in January. The systems feature a 33MHz version of the Motorola 68040 microprocessor. List prices range from \$5995 for a base configuration to \$9995 for a system configured with 16MB of RAM and a 400MB hard disk.

Mike Slade was recently promoted to the newly created position of vice-president of marketing at NeXT. Slade masterminded NeXT's recent launch of the Turbo workstation line, the company's new national advertising campaign and its announcement at NeXTWORLD Expo of NeXTstep '486, according to a company spokesperson. A former Microsoft executive, Slade joined NeXT last year and most recently was director of marketing. He will continue to report to Todd Rulon-Miller, vice-president of sales and marketing.

ANDI, the recently founded Association of NeXTstep Developers International, has announced membership pricing. Individual developers may now join for \$275 per year, for which they will receive an e-mail account and UUCP connection, on-line technical support, access to an on-line software library, and an electronic ANDI newsletter. User groups memberships cost \$175 per year. Government developers can join for \$1000 per year for one site, and corporate developers, dealers, resellers, and OEMs can all join for \$1500 per year for one site. Multiple-site discounts are also available. These groups receive the same services as individual developers as well as 5MB of on-line storage and a private conferencing area on the network. For more information, contact ANDI at

[CONTINUED ON PAGE

er general-purpose chips. If NeXT's future system is as as insiders expect, it may be able to provide the real-time video compression that had finally been promised for the NeXTdimension. It was not verified due to problems with the special-purpose integrated circuit being developed by Cube Microsystems. NeXT's future system is expected to cost substantially more than its current workstations and complement rather than replace the existing product line. NeXTstation line will continue to support the DSP. ♦

"This tool will completely change the way people work with computers," said Reynolds. "People are to understand, though, that the program is not a replacement for the keyboard or mouse. What it does is increase the bandwidth of interaction with the machine more quickly," he explained. Simon Says works with the NeXT's built-in microphone or any headset or tie-clip microphone. It is snapped up by about 150 users at a special Expo price and will be available by mid-March for \$295. HSD can be reached at 848-5522. ♦

at all

Steve Jobs on the Expo floor just say that Steve, apparently, was less than cordial. Developments in the distribution for some competition after the house Dr. Mac took a stroll in "Dr. NeXT" name is not are already metaphorically acts are now being sold and

at ball rolled around to Sullivan easy it was for him to lay low here his trim figure blended ought in for a meet-and-greet it types alone were a match ment soiree. Mix in a dozen or ivity-conscious than the heat - Wall Street - and hardly any-of substance to anyone else. able to circulate unnoticed in ite. zwords were multiprocessor rchitectures - anything but or NeXT executives, the ner-new sales and marketing ing a major realignment. resident, a position now being ar? With Wall Street's percep-e to the conclusion that day-strength. Does that mean ybe so. But one assumes me the new president will be ut for a power grab.

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NeXT deals on 25MHz Color Stations

by DAN LAVIN

Redwood City, CA - Hoping to rope in entry-level customers and at the same time make way for its new line of NeXTstation Turbos, NeXT has launched an across-the-board dealer promotion on low-end 25MHz NeXTstation Color machines bundled with a NeXT printer.

Through the end of March, direct accounts [SEE PRICING, PAGE 8]

NeXT buyers become sellers

by ELIOT BERGSON

In what could become an emerging trend in the NeXT marketplace, two corporate users of the platform have spun off software companies to sell their mission-critical custom applications to other firms.

Phibro Energy, a commodities trader located in Greenwich, Connecticut, launched MC² Technologies to market their "fully integrated" oil-trading software package, according to Vinnie Annunziata, president of the start-up.

"What we're doing is unique, from A to Z: trade capture, scheduling, keeping track of positions, credit and treasury, contract generation, and a link to accounting. If there had been software to do all these things on one platform, we would have bought it," he said.

Plans call for the firm to begin marketing and advertising in the summer, but word of mouth has already produced "big interest," according to Annunziata. "Traders are always on the phone with each other. They've been our best advertisers," he said.

The law firm of Marger Johnson McCollom &

DTP "engine" proposed

by SIMSON L. GARFINKEL

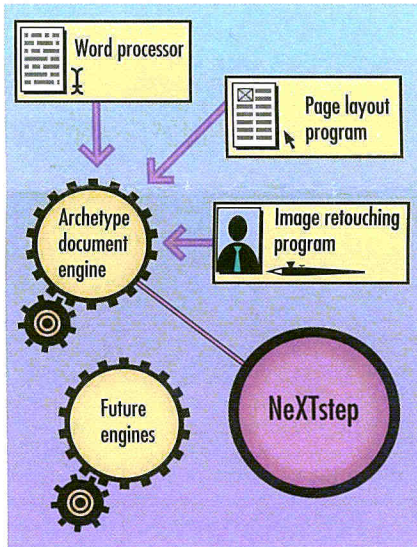
Waltham, MA - Archetype, a seven-year-old software venture, has announced a NeXTstep "document engine" designed to be the basis for modular desktop publishing applications.

The Archetype engine is like a document database system, said Paul Trevithick, president and CEO of the company, which is based here. The engine runs as an independent process on a NeXTstation and manages all aspects of the document's internal data structure. For example, the engine reads the document into memory from the disk, manages

all changes to the document, and generates the PostScript necessary to display the document on the computer's screen.

But the engine lacks a user interface and tools to allow direct manipulation of the document itself. Those tasks are performed by separate applications that communicate with the engine through Mach messages.

By design, more than one tool can be running the computer, each communicating with a single engine and editing a different aspect of the document at the same time. For example, a user might have one program to control page layout, another



In Archetype's scheme, multiple tools and applications communicate with a single document engine.

for editing text, and a third for manipulating photographs embedded in the document.

"Appli- [SEE ARCHETYPE, PAGE 7]

Mud flies in Sun-NeXT skirmish

by DAN RUBY

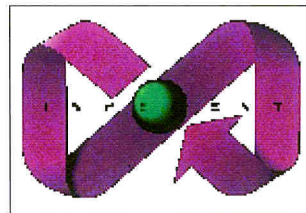
Mountain View, CA - The war of words between NeXT and Sun Microsystems escalated last month when Sun's direct sales force began using a sales presentation taking direct aim at its smaller competitor. NeXT responded with an open letter from Steve Jobs to Sun customers disputing points made in the Sun presentation.

According to NeXT, the presentation included misleading and erroneous information about NeXT products and the company itself. "Instead of providing a coherent technical comparison, the presentation is filled with random innuendo," said Ron Weissman, NeXT director of strategic marketing.

The Sun presentation was given to several of NeXT's biggest customers in the U.S. and Europe and was also shown at a recent Sybase user conference. "The good news is that Sun is taking us seriously. The elephant has noticed the scorpion," Weissman said.

A Sun spokeswoman declined to comment.

NeXT may have provoked the controversy with its recent video comparing the ease of programming on NeXT versus Sun systems and the repeated claim by Jobs that NeXT consistently wins sales when competing with Sun. NeXT intends [SEE SUN, PAGE 5]



Marger Johnson's Inherent Technologies will sell its custom NeXT software to other law firms.

Stolowitz, in Portland, Oregon, also experienced a similar word-of-mouth success. When other law firms began showing interest in InteliDock, a legal-docketing application, Marger Johnson spun-off Inherent Technologies, and tapped Gregory Miller as president.

"When the firm got inundated with requests [SEE SPINOFFS, PAGE 5]

NeXT launches CD-ROM promo

by LAURIE FLYNN

Redwood City, CA - NeXT Computer is inaugurating its launch in the CD-ROM market with special pricing on its new CD-ROM drive bundled with NeXTstep 3.0.

As part of a special promotion through the end of July, customers can buy both the drive

and the software upgrade for \$695. The list price of the drive is \$895; the software upgrade will carry a price tag of \$295.

Until NeXTstep 3.0 ships, however, customers of the bundle actually receive only the drive now and the promise of a free upgrade when the software ships sometime near the end of the second quarter. ♦

P R E V I E W

A first look at NeXTstep 3.0

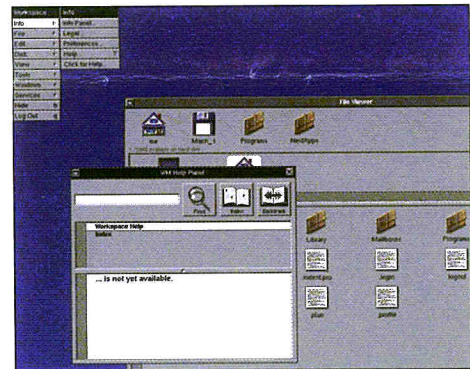
At NeXTWORLD Expo, the NeXT community got its first chance to pound on the keys of a NeXTstation running NeXTstep Release 3.0. We did just that — and the following report outlines our first impressions.

by SIMSON L. GARFINKEL

Although NeXTstep Release 3.0 hosts radical new features for developers — such as the Database Kit and 3DKit — and breakthrough connectivity support for networks that includes support for both Novell Netware and Apple's EtherTalk, NeXT has limited the number of changes to the operating system's user interface.

NeXTWORLD found changes in the prerelease version that ranged from cosmetic differences in most of the operating system's icons to minor new features added to programs like Workspace and Terminal designed to make NeXTstep easier to use.

Of course, the prerelease version of NeXTstep 3.0 that NeXTWORLD examined was several months from shipping. Any interface features we found were not necessarily set in stone — there may be further changes in the shipping product. Nevertheless, this first look at the work-in-progress reveals the areas that NeXT is working on and shows what directions NeXT is taking.



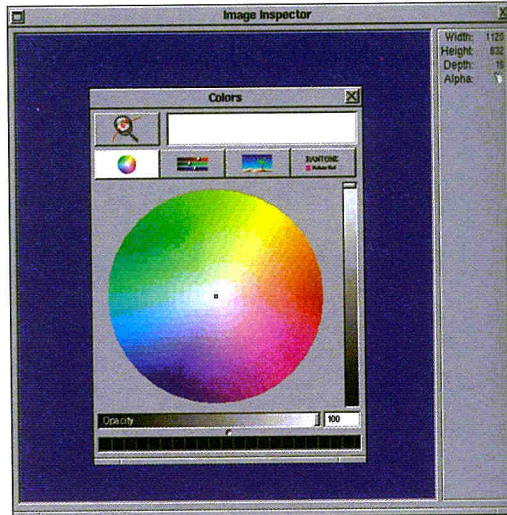
The Help panel in NeXTstep Release 3.0 looks a lot like Improv, including an index, a "go back" function, and a "click for help" option.

Color

People dismayed by the lack of color in the NeXTstep interface won't be let down by 3.0; the new operating system has ample color throughout the user interface. Everything from document icons to the application interfaces have been colorized in some way. The nice part about NeXTstep is that the color fades into the background and for many applications is almost subliminal.

Directory-folder icons are now colored like manila paper, and are darker towards the front to enhance the three-dimensional effect. The NeXTstation icon for the root directory is also colorized, with a purplish screen that has a spectacular highlight in the center. The recycler now has a touch of green.

Icons in the dock are now subtly shaded, so that the upper right corner is lighter than the lower left. This results in the dock icons looking like they are about to peel off the screen — enhancing the illusion that they are floating above the windows. Keith Ohlfs has clearly been hard at work.



The color wheel is just one of four main viewing modes in NeXTstep 3.0's new Colors panel. The other viewing modes are sliders, pictures, and list.

Other systemwide features

There are many new systemwide features in the new NeXTstep; here are a few that we noticed:

- **File panels** — The Save and Open panels now have a horizontal slider for moving up and down the file-system hierarchy, rather than the pair of buttons on the left side of the browser.
- **Help** — NeXTstep 3.0's new help system wasn't working on the version we saw, but we could snap a screen shot of the new Help panel. The panel looks a lot like Improv's help system, including an index, a "go back" function, and a menu option to click for help.
- **Smart menus** — NeXTstep now remembers which menus you've torn off when you quit an application; they reappear automatically when you relaunch the program from the dock.
- **PostScript selection** — Now, when you save PostScript into a file, you can save it for normal device-independent PostScript, a selected printer (important for use with calibrated color models), and even include your own PostScript fonts in the output.

Workspace Manager

Workspace Manager is now a separate program that runs underneath the window manager. This should improve system reliability; crashing the workspace won't mean an abrupt termination of all your other programs. It also has a flood of new features:

- **New disk options** — Preference selections allow the user to make Workspace 3.0 handle removable disks differently from fixed ones.
- **Better control when copying links** — You can now set Workspace Manager's default action when it encounters a link to either make a new link, skip the link, copy the file that the link points to, or ask the user each time.
- **New file options** — You can now compress or encrypt a file directly from the workspace.
- **Smarter Inspector** — It now knows how to uncompress a compressed file.
- **Changed Access control** — Workspace Inspector's main window now only lets the user modify the read- and write-protection attributes of a file; if you want to modify the execution attribute, you'll need to go to a fourth view called "Access Control."
- **Improved file finder** — The Finder will now search for files that have a string in their name, in their contents, or both. Gone is the Finder's ability to search for "home directories" — the new Finder has a shelf, like Digital Librarian, which lets you search any directory or file system you want.

Mail

Changes to the Mail app include:

- **Encryption** — Outgoing mail can now be encrypted at the click of a button.
- **Personal-information manager** — Mail has a new system for keeping track of people's names and e-mail addresses. [SEE NEXTSTEP 3.0, PAGE 6]

B U

Support costs NeXT register

by CLAIR WHITMER

Redwood City, CA — In a move that reflects the bounding number of NeXT third-party and corporate developers, NeXTedge and NeXT's developer support group are changing their fee structure.

General technical support for system administration and networking questions has been available to users through the Support Hotline for \$2500 per year. The hotline will continue to support phone and e-mail, but NeXTedge is now also offering pay-per-call support. Pay-per-call support costs \$40 for the first ten minutes, or \$100 if the question takes more than ten minutes.

In the past, developers generally received the hotline service free of charge, although NeXT says its official policy was always to charge. The current change necessary business decision to support increased demand, says Elton Sotello, manager of customer support. He added that NeXT is sensitive that some developers will balk at having

Music Kit u

by LEE SHERMAN

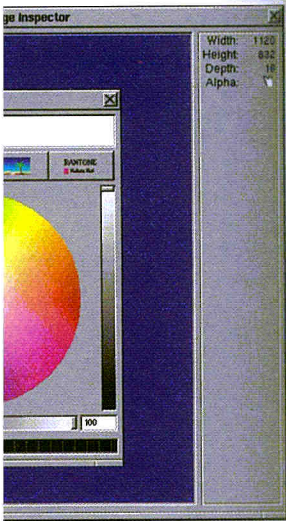
Redwood City, CA — The Music Kit, one of the crown jewels in NeXT's development environment, will no longer be bundled with NeXTstep when release 3.0 arrives. Rumors of its death, however, have been greatly exaggerated.

The kit, which contains software objects for the synthesis, performance, and composition of music, will be reincarnated in the hands of researchers at Stanford University's Center for Computer Research in Music and Acoustics (CCRMA), where many of the kit's principal architects originated. NeXT has agreed in principle to allow Stanford to take over support for the kit, sources say.

Under the terms of the deal, NeXT would become an industrial affiliate of the university, providing financial support for the Music Kit's continued development in the form of a graduate-student research fellowship. Past industrial affiliates have included Xerox, Symbolics, and Apple Computer. Though maintained and supported by CCRMA, the software and source code will fall

The
**Font
Hotline**
800-525-FONT





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Mail has a new system for keep- il address- [SEE NEXTSTEP 3.0, PAGE 6]

N E X T W O R L D E X T R A

B U S I N E S S N E W S

Support costs are rising for NeXT registered developers

by CLAIR WHITMER

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The price of developer support

\$40 for under 10 minutes
\$100 for more than 10 minutes
\$2500 per year

pay for what used to be free. "That's not what they implied at Developer Camp. They implied [support] was for free," said one developer who asked not to be named.

NeXT is also reorganizing NeXTstep development support. Previously, all developers who had been to Developer Camp directed problems to the developer support group headed by Kate Smith. From now on, however, this group will support only a limited number of what NeXT terms "strategic" developers, while smaller developers and all corporate developers will now direct their questions to NeXTedge. Rates for this fee-based support have not yet been decided.

Music Kit unbundled from NeXTstep 3.0

by LEE SHERMAN

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Though maintained and supported by CCRMA, the software and source code will fall

into the public domain.

Though missing the Music Kit, NeXTstep 3.0 will offer many features of interest to musicians, including a new MIDI (Musical Instrument Digital Interface) driver. Improvements to the Sound Kit, which allow for real-time mixing and better compression ratios, will help strengthen NeXT's role as a lead-

Fast start for Frame IPO

by LAURIE FLYNN

San Jose, CA – Frame Technology staged a successful initial public offering (IPO) last month, indicating a renewed confidence in the high-tech market.

At press time, Frame's stock was trading at \$23.50, up from its opening price of \$14. The stock was originally priced at \$8.50 to \$10, according to sources close to Frame. The IPO took place on February 13. Company executives were not available for comment, citing a legally required period of silence for one month.

Frame is one of only a few document-processing programs for the UNIX platform, competing primarily with Interleaf, of Waltham, Massachusetts. Once bundled with early NeXT machines, Frame remains the only document-creation-and-processing program available for the NeXT.

The company had just announced a version of the program for Windows-based PCs, a move one analyst said substantially improved its market credibility. In that market Frame will

compete with Aldus Corporation's PageMaker, as it already does in the Mac market.

The IPO comes at a time when many companies are experiencing slow sales, with some enduring layoffs and cost-cutting measures. The offering was underwritten by San Francisco-based Hambrecht & Quist and Minneapolis-based Wessels Arnold. Frame's stock is traded on over-the-counter markets under the symbol FrmTc.

Jobs designed own visual aids

by STUART SILVERSTONE

San Francisco – NeXT CEO Steve Jobs demonstrated his design and communications artistry – as well the strengths of the company's computer – at his NeXTWORLD Expo keynote presentation in January.

The visual aids for his two-hour presentation were created using a beta version of Lighthouse Design's Concurrence software, an alpha version of the NeXTstep 3.0 operating system, and a prerelease version of a NeXTstation Turbo. The setting was stark, with Jobs – solo onstage for nearly two hours – sitting in front of two NeXTstations.

Jobs spent several late nights designing his presentation, writing the text, drawing graphs and diagrams, and scanning artwork.

With a penchant for perfection and making last-minute changes, Jobs served as a perfect example of the benefits of the NeXT platform.

"We would have spent over \$50,000 with traditional slides,"

Frame Technology at a glance

Frame Technology
1010 Rincon Circle
San Jose, CA 95131
408/433-3311

Year founded: 1986
CEO: Paul Robichaux
No. of employees: 300
1991 revenues: \$42 million
IPO stock price: \$14

Jobs explained. "My presentation was a ton better because I was able to create it myself rather than tell a slide maker, who is paid by the hour."

The presentation's style was accidental, according to Jobs. While experimenting with background colors, someone criticized the green he had chosen as looking like a chalkboard. "I realized, 'Yes, I'm giving a chalk talk.' " Then Jobs chose Adobe's Tekton font to make the text look handwritten.

NeXT Europe ousts Wegbrans

Sophia, France – In a move that may presage major changes in NeXT's European strategy, Theo Wegbrans was dismissed last month as president of NeXT Europe, sources said. Wegbrans joined the company one year ago after 18 years with Hewlett-Packard. NeXT declined to comment.

Sales Watch

As NeXT continues to gain market share, we'll keep track of some of large recent purchases.

Customer	Application	# of Units	Major Software
Preferred Health Care Wilton, Connecticut Managed psychiatric and substance-abuse care	Managed-care database	1,046 (106 currently on-site)	In-house custom applications, Sybase, Improv, Wingz, Diagram
University of Chicago Chicago Higher education	Administration and financial analysis for biosciences division	250 (30 currently on-site)	Improv, FrameMaker, WordPerfect, Diagram, Concurrence
Ergo Newport, Rhode Island Medical development	Automation of health-care services	200	Custom applications by Crystal Computer Systems, WordPerfect, Improv

B U S I N E S S N E W S

NeXT factory gets new robots

by CLAIR WHITMER

Redwood City, CA – Striving to set its own sterling example for mission-critical custom applications, the NeXT factory-automation group is implementing the third phase of a new robotics technology controlled by the NeXT workstation.

Called Sawyer motor robotics, the equipment looks radically different from the bulky, awkward metal arms of conventional

robots. The robotic manipulators that do the work are suspended by a magnet from a metal platen. The magnet exerts enough attraction to suspend the manipulator but doesn't actually touch it, so that the manipulator sits on a thin layer of air, appearing to float. The magnetic "forcer" is what directs the manipulator's movements.

The robots are small and light, and their controllers are magnetic rather than mechanical.

"You can have multiple units coexisting in the same workplace, zipping around," said Kim Spitznagel, NeXT's director of manufacturing engineering and production.

Each manipulator has a dedicated controller with an RS-232 interface to a NeXT workstation. Users direct the robot through a NeXT-developed computer-integrated manufacturing application.

Though comparable in speed to other robot technologies, the Sawyer robot components are more mobile and move without friction. This gives them an accuracy "an order of magnitude" better than their mechanical alternatives, with a defect rate lower by 30 to 50 percent, according to Spitznagel. They are also cheaper because the same modular parts can be used for different functions, and safer because there are no heavy parts that can fall.

NeXT is one of the first companies to go beyond the tire-kicking stage with the Sawyer robots, having already started using them last year. "Steve [Jobs] really gets off on robotics technology," said Spitznagel. ♦



NeXT has installed Sawyer robotic equipment controlled by NeXT workstations running manufacturing software. The robots are far more accurate than conventional robots.

Third-party developers describe "spotty" relations

by CLAIR WHITMER

The wave of enthusiasm about development under NeXTstep has continued to ride high since NeXTWORLD Expo in January. But some third-party NeXT developers contend it isn't easy to get NeXT's attention and support.

The issues that fire the tempers of many developers include complaints that NeXT has created a skewed playing field; frustration over spotty communication between NeXT and the developer community; and disagreement with NeXT marketing decisions and positioning.

For many developers (especially small companies that don't develop for other computers), creating NeXT software has been largely a matter of faith, and their livelihoods depend on NeXT's continued growth.

"It's a small market. Any competition is seen as deadly competition," said Hank Weghorst, president of Media Logic.

Although most developers say

NeXT treats its developers better than other companies, such as Apple, small companies often complain that they have trouble getting NeXT to listen.

But the most biting behind-the-scenes accusations involve NeXT's perceived playing of favorites. For example, most NeXT employees were using a beta version of Lighthouse Design's Concurrence package for their slide presentations at Expo. Some developers said that this implicit endorsement discourages others from creating presentation software.

In such a small market, product likes and dislikes can become personal, especially when the system vendor's CEO is known for his strong opinions.

"Jobs's ability to barf on your product is pretty legendary," as one NeXT employee put it.

At one Expo forum, representatives from successful third-party vendors Lotus Development, Lighthouse Design, and HSD recommended relying on the assis-

[SEE DEVELOPERS, PAGE 7]

Graphisoft ready

by DAN LAVIN

Budapest, Hungary – It took a Mac company coming from as far away as Eastern Europe to get it, but the NeXT finally has a firm promise for shrinkwrapped CAD (computer-aided design) software.

Graphisoft has announced the shipment of Visa, a DXF-to-NeXT file-format converter, as first step towards the port of its TopCAD product by early next year.

Since the NeXT first shipped, observers have pegged it as the ideal platform for CAD applications. Unfortunately, until now no significant third-party software developer has taken up the challenge. This has precluded NeXT's entry into one of the most lucrative segments of the workstation market.

Graphisoft, a Hungarian company with 80 employees, has two products on the Mac platform: ArchiCAD is a high-end package for architects that has had good success in the United States, and TopCAD is a full-feature 2-D CAD package.

Although Graphisoft's packages on the Mac sell far more than the average NeXT product, its customers fit right in with NeXT reliance on large

Think. Organize. Communicate. Few are born with the ability to excel at all three. One software system is. *Who's Calling?* The most advanced contact management and scheduling program there is. With modules for group scheduling, tracking client information, conversation histories and live network messages. *Who's Calling?* has multi-media capability. And plenty of flexibility and power—as much



What if you could be as smart as this.



Organized as this.

for the single into *Who's Calling?* or NeXTCon



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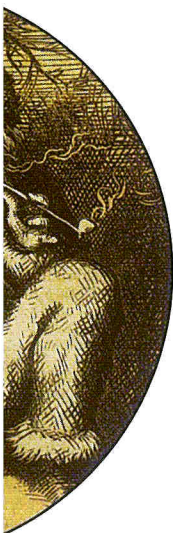
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N E X T W O R L D E X T R A

Graphisoft readies TopCAD version for NeXT

by DAN LAVIN

Budapest, Hungary - It took a Mac company coming from as far away as Eastern Europe to do it, but the NeXT finally has a firm promise for shrinkwrapped CAD (computer-aided design) software.

Graphisoft has announced the shipment of Visa, a DXF-to-NeXT file-format converter, as a first step towards the port of its TopCAD product by early next year.

Since the NeXT first shipped, observers have pegged it as the ideal platform for CAD applications. Unfortunately, until now no significant third-party software developer has taken up the challenge. This has precluded NeXT's entry into one of the most lucrative segments of the workstation market.

Graphisoft, a Hungarian company with 80 employees, has two products on the Mac platform: ArchiCAD is a high-end package for architects that has had good success in the United States, and TopCAD is a full-feature 2-D CAD package.

Although Graphisoft's packages on the Mac sell far more than the average NeXT product, its customers fit right in with NeXT's reliance on large

direct sales. Graphisoft brings with it important blue-chip accounts such as Air France and Renault of France and Alfa Romeo of Italy, as well as Lockheed and Disney in the United States.

"We consider TopCAD to be a natural for the NeXT market," said Chris MacAskill, manager of developer relations at NeXT. "Many of our customers have

been asking for this kind of solution." He described the product as a "souped-up ClarisCAD."

Visa is a utility to import DXF-format files into native Adobe Illustrator, TIFF, or PostScript file formats. DXF is the format produced by the market-leading Autocad package on the Mac and PC. Visa costs \$95. Graphisoft can be reached at 800/344-3468. ♦

Paget Press launches CD-ROM

by SIMSON L. GARFINKEL

Seattle - Paget Press will soon begin a quarterly CD-ROM publication for NeXTstep computers featuring software reviews, buyer's information, and "disabled" applications that can be activated over the phone with a credit-card number, said Peggy Thompson, president of Paget Press.

The CD-ROM will be published quarterly, with a single-issue price of \$25, said Thompson. The first issue is likely to compare features and specifications of third-party products.

Thompson sees CD-ROM as the ideal distribution medium for low-cost software "modules" that VARs and customers can use

to build their own custom-application programs. A database at Paget Press will keep track of customer purchases and help a salesperson make recommendations.

"Over time, we will be able to offer frequent-buyer discounts and keep information about people's computing environments. It would be nice if you could call in and say, 'I need a modem,' and they know enough about your system to say, 'This is the modem that you need.'"

"In the end, our business will look like a cross between the Home Shopping Network, an office supply catalogue, and a book publisher," Thompson said.

Paget Press can be reached at 206/448-0845. ♦

Spinoffs

[CONTINUED FROM PAGE 1]

for information, they said, "This is fun, but off the corporate charter. We have to focus on practicing law." They asked me if I wanted to practice software again," Miller said.

Miller joined up with Giuseppe Cerbone, a database expert currently on assignment with NASA Ames Research Center, to develop SILC, a relational database server for legal docketing, billing, and time-keeping.

"Most legal apps run on closed, proprietary databases. They can't talk to each other. They all wanted an open database that any app could tie into. So we decided to drive the market," Miller said.

Miller found the same high interest at a conference of NeXT users in the legal field in Denver in late February, but says that spinning off a software company may not be for every company or type of business. "The thought of say, gas stations, running a software company might be weird. You have to decide if development is strategic enough to get to market," he said.

Annunziata agreed. "Most companies use computers to target one department or division. Our project is strong because it encompasses an entire company, a whole system. With only parts,

everything has to be reconciled. That leads to lots of headaches," he said.

Each company has to decide whether their type of business will allow it to both develop and market their software product. Whereas MC² Technologies can easily market their software because of heavy contact between traders in the industry, Miller indicated that Inherent Technologies didn't want to get headaches from manufacturing or marketing the software.

"Because the firm itself was a great beta site, we got tremendous feedback. We've leveraged that into our finished product. Now we can bring it to a software publisher and get it published and sold," Miller said.

Miller added that this trend might lead to a robust software-publishing industry. "The software publishers may be the big winners in all this," Åhe said. ♦

Sun

[CONTINUED FROM PAGE 1]

to distribute copies of the presentation and its reply at SunWorld Expo next month.

"This controversy is not surprising. Backbiting and mudslinging is a traditional part of the UNIX market," said Nina Lytton, editor of *Open Systems Advisor* in Boston. ♦

for the single user as for the network. The program can be modified to fit each user's needs or Adamation can tailor custom applications into *Who's Calling?* If you want your business to think better, plan better, and communicate better, act today. Contact your NeXT reseller or NeXTConnection at 1 (800) 800-NeXT for pricing and ordering information.



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NeXTstep 3.0 [CONTINUED FROM PAGE 2]
es; the information is now shared with the Fax panel.

Colors panel

Order has been put to the NeXTstep Colors panel. The panel now has four main viewing modes: color wheel, sliders, picture, and list. (Underneath the sliders mode are the grayscale, RGB, HSB, and CMYK views found in NeXTstep

2.0.) Pantone colors are still one-way: While the panel lets the user choose a color by Pantone number, or change a Pantone number to an RGB configuration, it won't let you pick a color and have the system tell you the matching Pantone value.

IconBuilder

NeXTstep now comes with a simple-to-use program for creating

and editing TIFF files used for icons. The program, IconBuilder, has tools for drawing lines, squares, circles, filling areas, moving pixels around, and typing text onto the background. Because it is pixel-based, and not object-based, it is a big step down from Draw – it even has fewer features than the original release of MacPaint. Fortunately, new tools can be loaded into IconBuilder at run-time.

Fax Modems

NeXTstep 3.0 pays much closer attention to faxes and fax modems.

- Fax panel – NeXTstep's Fax panel now supports multiple address books, easy selection of network fax modems, and the ability to send a fax at a prearranged time. Still no polling, though.
- Adding a new fax modem –

This is now much easier, thanks to PrintManager's new menu command for the function. NeXTstep 3.0 supports Class 2, Class 2D, and Interfax fax modems.

- Received faxes – You can now automatically archive and electronically send them to their recipient.
- An automatic hard-copy option – This feature allows you to print a copy of every fax automatically received.

Developer's corner

As we said before, NeXTstep 3.0 is a developer's feast. Here's a sample of what we found:

- New Interface Builder – Interface Builder has been completely rewritten for NeXTstep 3.0. The biggest change is the Classes, Icons, and Sounds windows – they're gone. Instead, the Interface Builder resource window has been modified so that it is now a multiform inspector (similar to the Palettes window), with buttons across the top to select whether you are looking at the Objects, Images, Sounds, or Classes views.
- IB Modal Panels – You can now draw custom modal panels directly from Interface Builder with the New Modal Panel command. Other commands allow you to create a New Inspector or New Palette directly.
- Modal inspection of cell prototypes – The matrix-cell prototype inspector is now its own modal panel, rather than a new view in the Attributes Inspector.
- Intelligent handling of TIFFs – You can now put the TIFF and EPS pictures for an application in subdirectories in the application wrapper.
- New Project Builder – Interface Builder's capabilities for managing makefiles has been pulled out into a new program. This program is tightly coupled with Interface Builder to provide nearly seamless integration.
- Rearrangement and precompiling of #include files – NeXT is now putting its #include files in the directory /NextDeveloper/Headers. Precompiling makes #include files load in a fraction of the time when running the Objective-C compiler.
- 2.0-compatible headers – This time, NeXT kept all of the 2.0 #include files on the system, which means that developers should be able to recompile existing 2.0/2.1 programs.

What we missed

Our copy of NeXTstep was missing the new Librarian and Edit programs. Expect to hear more about those in the future. ☛

Archetype

[CONTINUED FROM PAGE 2]

cations will be smaller, focused on a specific kind of functionality, not 10,000 functions in a box," Trevithick predicted.

The two-program approach extends naturally to a networked environment, Trevithick said. If two people on the same local-area network try to edit the same document at the same time, the two engines find each other, "hook up and from that point maintain a unified view of the single document.

By making the Archetype application programming interface (API) public, Trevithick hopes to encourage third parties to develop tools built upon the engine. To give third parties a start, Archetype will be selling a Archetype Developer's Kit, containing a working engine and the source code to a page-layout program, for \$995. End-user pricing for the engine has not been set.

"This is a totally different approach" from existing DTP systems, said Trevithick.

The engine is modular and

Developers

[CONTINUED FROM PAGE 2]

tance of developer advocates. Yet with five developer advocates in the U.S. servicing 1600 registered developers, they admit that just getting phone calls returned is problematic. Even current favorites like Lighthouse Design once had to struggle to get NeXT's attention when Diagram was being developed, according to Chris MacAskill, NeXT manager of developer relations.

A small group of developers is trying to counter this scenario with the creation of an independent NeXT developer's group, ANDI (Association of NeXTstep Developers International), which will allow developers to approach NeXT with a united front.

"In a constrained-resource situation, a hardware vendor has to make choices [about what software to promote] and that leads to the favoritism charges," said Bruce Webster, president of ANDI and director of research and development for Pages in San Diego. "Part of ANDI's charter is to diffuse that."

In addition to technical and marketing information, NeXT has several corporate policies that developers might want to address through an organization like ANDI. For example, several developers said they were annoyed by the abrupt switch from optical disc to CD-ROM as a distribution method for system software, since it requires customers to purchase a CD-ROM drive to upgrade to NeXTstep 3.0.

NeXT has also drawn criti-

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– Steven P. Jobs
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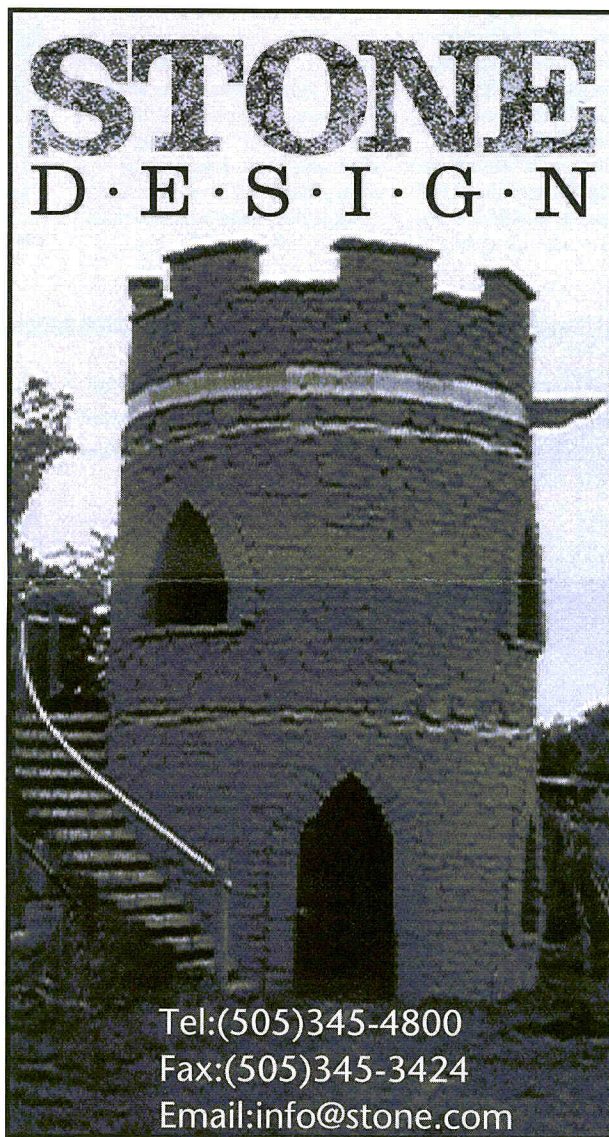
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– Eric Thayer,
Research Programmer CMU

"Geez, it's really 2am. I've been working about 6 hours straight now. The new version of DataPhile you gave me in Washington is a little bit too cool. Every now and then, I just jump up out of my chair and bounce around the room chanting, 'This is why I bought a NeXT! This is why I bought a NeXT!'"
– John Coppinger,
Kentucky NeXT Users Group

"The more I work with DataPhile, the more I like it."
– John Bartley, Partner
Workgroup Productivity Assoc.

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The engine is modular and

extensible, said Trevithick, so that developers can add their own custom objects that would be put into Archetype documents. The design also allows customers to change the engine's internal objects as well.

"If you had a custom hyphenation and justification or line-break algorithm, you could slide Archetype's out and yours in," Trevithick said.

The Archetype engine is based on Xaviar, an MS-DOS page-layout program that Archetype has been developing for the past seven years. Because Xaviar is written entirely in Objective-C, it was easy to port the program to NeXTstep, said Kenneth A. Bonnin, a software engineer with the company.

"In coming to the NeXT, we had a real opportunity to evaluate our design, shake it up, and put it back together in a way that makes sense with today's technology," he said. "This is an idea that Paul has had for quite some time, but the technology wasn't there until this machine came along." ❖

Developers [CONTINUED FROM PAGE 4]

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NeXT has also drawn criti-

cism for its practice of offering only blind direct-mail lists, since this denies developers direct contact with the reseller channel. And some developers were riled about NeXT's recent decision to enforce its policy of charging developers for general technical assistance (see "Support costs are rising for NeXT registered developers," page 3).

Developers are also smarting over NeXT's gift of WriteNow and Pixelist, as well as the nonexclusive publishing rights for Oscar, to software publisher Appsoft. Relationships between developers and NeXT became even more tenuous when publishing-developer advocate Peter Karnig jumped ship to Appsoft, taking with him knowledge about competitors' plans.

Though Appsoft says it doesn't have access to this information, some developers say the incident undermined their trust in the advocate program.

But at an Expo forum for developers, NeXT's MacAskill and Leo Hourvitz tried to salve wounds by differentiating between enabling technology like RenderMan, broadly useful applications such as Mail, and "gray zone" software like WriteNow.

Still, the most fundamental source of anxiety for NeXT developers is confusion over NeXT's business decisions and its history of waffling. During his keynote, NeXT CEO Steve Jobs said, "I'm sorry we didn't learn these things earlier," referring to such marketing shifts. ❖

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B R I E F S
C o n t i n u e d

301/681-3932, strehl@socrates.umd.edu., or CompuServe 73130.3135.

ARDI (Abacus Research and Development), of Albuquerque, New Mexico, has shipped Version 1.1 of its Macintosh emulator for the NeXT, Executor-MSW. This version supports limited printing, as promised. The upgrade is free to registered users. The price of the product is \$80. ARDI: 505/766-9115.

Protec Print Aps, a maker of customized keyboard keys, is now making keycaps for NeXT keyboards. More than a dozen orders have been filled, primarily to European integrators. Cost for 100 sets of 25 keys is between \$1 and \$1.50 per key. "We can basically print anything on the keys, in any color," said Eric Adler, a company sales manager. Protec Print Aps: P.O. Box 245, Bakkegaardsvej 406A, DK-3050 Humlebaek, Copenhagen, Denmark. 45/42/19-06-44.

MediaView is now available on the Purdue University archive. The multimedia digital publication is owned by the Regents of the University of California, which manages the Los Alamos National Laboratory archive. Custom components make MediaView extensible. The source for two of the components is currently on the archive, as well as a document which describes their API. There are also 10 MediaView demo documents available.

Correction: In the February 1992 *NeXTWORLD Extra*, the phone number for HSD Microcomputer US was incorrect. The correct number is 800/828-5522.

NeXTWORLD Extra is a supplement of *NeXTWORLD* magazine. It is published monthly by Integrated Media, a subsidiary of IDG Communications, 501 Second St., San Francisco, CA 94107, and is distributed free to subscribers of *NeXTWORLD*. Lt. Sullivan's column and articles about unannounced NeXT products are reported and written by contributors without guidance from the *NeXTWORLD* staff.

Editor: Dan Ruby; **Executive Editor:** Laurie Flynn; **News Editor:** Dan Lavin; **Staff Writer:** Simson L. Garfinkel; **Layout Chief:** Sue Troy; **Copy Editor:** Eliot Bergson

Top buyers plan user group

by ELIOT BERGSON

Beverly Hills, CA – When NeXT announced their recent marketing shift toward custom-application development for large commercial clients, Alex Henry had the requisite next idea: a user group for those large corporate clients.

"System administration for large networks, software development concerns, hardware maintenance – all different levels of interaction are needed," said the director of MIS for the 310 NeXT machines at the William Morris Agency in Beverly Hills, California. "I have more common concerns with Rob [Wilén] in Chicago than with all the sysadmins at small sites in Southern California," he added.

Rob Wilén, vice-president of the office-automation group at

SBC/OC in Chicago, agreed that "much of the informal networking has been geared toward the small site or the large academic installation."

"We need to make better use of what NeXT has to offer and help build some consensus as to what NeXT should do to better serve the needs of these [large commercial] customers," he said.

Henry reported that NeXT has, for its part, developed an advisory task force to look into the matter. The company also sponsored a dinner at *NeXT-WORLD* Expo.

"Since these large sites can have networks scattered throughout the world, the workload for setting up this kind of group is far greater than setting up a local user group. It's not trivial," said Wilén. ♦

Pricing [CONTINUED FROM PAGE 1] and resellers in all channels in North America will be able to purchase machines configured with 16MB of RAM and a 105MB hard disk for at least 10 percent less than the current list price of \$7999. Some outlets are

foregoing some of their own margins to offer even greater reductions.

The rationale of the promotion is to broaden NeXTstep's base and bring in more entry-level users, according to Erna Arneson, NeXT's director of

NeXT Publishing Alliance formed

Boston – NeXT recently formed the NeXT Publishing Alliance (NPA) to coordinate the activities of third-party developers and value-added resellers (VARs) who sell to the publishing market.

The NPA will meet twice a year at the Seybold conferences and will serve as a forum for NeXT to bring customers up to date with breakthroughs in publishing on the NeXT platform.

The group also will meet once a year with NeXT's engineers at NeXT headquarters "to have high-level discussions of what's needed in the system," said Chris MacAskill, manager of developer relations.

At the first meeting of the NPA in Boston, Dave LaDuke,

NeXT's advocate for publishing, introduced his vision of "modular solutions for publishing." These would let VARs and resellers construct custom publishing systems by taking base programs and adding a variety of software "modules," all sold by different companies.

"This could dramatically change the way that software is brought to the market," said LaDuke. "Instead of trying to throw in every capability and creating 'sprawlware,' you can concentrate on solving a particular program."

The NPA's members include Archetype, 3K Computerbild, Goldleaf Publishing, Paget Press, and Color Tomorrow. – by *Simson L. Garfinkel*

channel sales. The timing could also be related to inventory levels of the older 25MHz machines, given the recent shipment of NeXT's new Turbo line, based on a 33MHz version of the chip.

NeXT has always offered promotions, but this one has a more

direct price impact than most others, such as last year's bundling of Lotus Improv. It is also the first effort to work across all channels, including direct corporate, government, higher education, VAR, and dealer channels. ♦

Fast talking keeps Guru's cover secure

The "eyes-only" packet from the Directorate of Administration caught Sullivan's attention when it landed in his In box. Usually, DirAd memos involved vacation schedules and the like; personnel matters would be classified only as "confidential."

He opened the envelope, and a stack of press clippings about a future NeXT RISC workstation slipped out. A handwritten note from the chief of information systems read, "What can you tell me about this?"

A queasy feeling welled up inside. Sullivan's first thought was that his cover was blown. That might mean no more visits to Redwood City, no more expensive lunches at Sans Souci. But a moment later, he was feeling better. A crackdown on his moonlighting operation would have come from his own superiors in DirPlans. Maybe the IS honcho was witty, but could be kept quiet in exchange for some information.

"Meet me at Angelo's, 6 p.m. Your code name will be Seeker. You can call me Guru," Sullivan scrawled back, and called in a clerk to route his message through secure channels. It was a chance picking a lounge favored by Agency personnel, but it seemed unlikely that eyebrows would be raised over two employees sharing a beer.

Seeker got right to the point: "So what's this all about? I haven't been disclosed." At first Sullivan played dumb, but an impatient look from across the table pushed him over the edge. "NeXT isn't doing any disclosures yet. They're worried customers might delay purchases," he began.

"Look, the press reports are all over the map. Read them all, and you know less than you did to begin with. The bottom line is, of course NeXT has faster machines in its future. What computer company doesn't? But should you wait to buy? Hell, no. I need a Turbo now, and so do a lot of us throughout the building. If you jokers hold us up for some kind of administrative snafu, a lot of people are not going to be pleased."

"Well, we'll still want slabs on most client desks," Seeker conceded. But he wasn't going to let Sullivan off that easy. "Who's in the know about your NeXT connection?" he asked casually.

Clearly, Sully was going to have to cough up some specifics. "What do you know about FDDI?" he said. "Combined with Ethernet and ISDN, FDDI on the motherboard means NeXT is positioning NRW in part as a communications server. With an NRW as the main server in each office, Ethernet networks at

each site would be connected via a high-powered FDDI backbone link. ISDN allows individual remote sites to dial into the same worldwide network. Every computer in the organization has total access to the net."

While Seeker was chewing on that one, Sullivan slyly shifted to another topic: the not-quite-dead optical drive. He explained that NeXT is working on solutions, and the best bet at this stage is a SCSI upgrade kit. The kit would reuse an optical from an existing NeXTcube in an external case with a connection to NeXT's SCSI bus. Unfortunately, the device will no longer read disks written before the conversion. You would have to dump the data somewhere, reformat the disks on the converted drive, and then dump it back. "Sounds about as much fun as a three-day weekend in the Iraqi desert," Sully observed.

Another problem NeXT is working on are complaints over its keyboard. While Apple Desktop Bus is still alive for future machines – allowing users to choose among input devices – there will be fresh keyboard options this spring or summer. An ergonomic keyboard designed to lower the risk of repetitive motion syndrome is in the works. This model is also expected to feature function keys.

Seeker yawned as Sullivan rushed ahead. NeXT's physical plant seems to be shrinking, he said. Employees vacated the little-used building at 600 Galveston in Redwood City last month, a short time after the company also relinquished its offices on Saginaw Drive. This is one more aspect of the general belt-tightening as NeXT counts down to a planned initial public offering in late 1993.

By this time, Seeker had reached information overload. On his way out he assured Sullivan that his secret would remain safe "as long as we can sit down like this every once in a while."

"Sure," said Sullivan, feeling the hook sink deeper into his hide.

The new Agency directive about openness with the press specifically does not apply to computer applications, according to policy makers in the Directorate's office. No matter, the channel is still open, and Lt. Sullivan T-shirts signed by Steve Jobs are still available in exchange for reliable information. Send e-mail to sullivan@nextworld.com or leave voice mail at 415/978-3374.

Lt. Sullivan



NEXTWORLD

NEWS
I N B R I E

A small scout team of NeXT developers, including three representatives of Talus Imaging, is in Moscow this month to donate two NeXT computers to the Moscow Institute of Physics and Technology and to attend Comtel '92, the Russian version of Comdex. Talus President Steve Sarich has received a request for a proposal for an enterprisewide document management and imaging system to be delivered to the Russian government. In addition, NeXT Computer Germany has agreed to donate a NeXTstation Turbo Color and printer to Russian President Boris Yeltsin. ANDI, the newly formed developers group, will obtain the necessary U.S. export documentation and install the machine. U.S. export laws impose restrictions on technology to be exported to any former region of the Soviet Union; in NeXT's case, the law allows the export of 25MHz machines, but a Turbo requires a special license.

Versant Object Technology, of Menlo Park, California, said it will port its Versant ODBMS to the NeXT under a contract with Williams Telecommunications. The database will be released as a commercial product and join a growing number of databases for the NeXT. Versant: 415/329-7500.

The Western Publications Association honored *NeXTWORLD* with its Maggie Award for best cover on a consumer magazine for the Fall 1991 "Plunging Into Color" issue. *NeXTWORLD* was also a finalist in the year's best new magazine category.

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**FDI backbone link. ISDN
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NEXTWORLD

EXTRA

MAY 1992

NEWS IN BRIEF

A small scout team of NeXT developers, including three representatives of Talus Imaging, is in Moscow this month to donate two NeXT computers to the Moscow Institute of Physics and Technology and to attend Comtek '92, the Russian version of Comdex. Talus President Steve Sarich has received a request for a proposal for an enterprisewide document management and imaging system to be delivered to the Russian government. In addition, NeXT Computer Germany has agreed to donate a NeXTstation Turbo Color and printer to Russian President Boris Yeltsin. ANDI, the newly formed developers group, will obtain the necessary U.S. export documentation and install the machine. U.S. export laws impose restrictions on technology to be exported to any former region of the Soviet Union; in NeXT's case, the law allows the export of 25MHz machines, but a Turbo requires a special license.

Versant Object Technology, of Menlo Park, California, said it will port its Versant ODBMS to the NeXT under a contract with Williams Telecommunications. The database will be released as a commercial product and join a growing number of databases for the NeXT. Versant: 415/329-7500.

The Western Publications Association honored NeXT-WORLD with its Maggie Award for best cover on a consumer magazine for the Fall 1991 "Plunging Into Color" issue. NeXTWORLD was also a finalist in the year's best new magazine category.

Keith Ohlfs, designer of much of the NeXT interface, resigned in [CONTINUED ON PAGE 8]

Slugfest at SunWorld Expo

by CLAIR WHITMER

Santa Clara, CA - NeXT took its guerrilla marketing campaign against Sun Microsystems directly to the source last month here at SunWorld Expo.

Besides its large booth at the show, NeXT dropped off a promotional package at the hotel room of every Expo participant. The package included a ten-page letter from CEO Steve Jobs rebutting an anti-NeXT Sun sales presentation; a copy of the "NeXT vs. Sun: A World of Difference" videotape; a sales brochure; and a copy of a thumbs-up review of the NeXTstation Turbo Color from *SunWorld* magazine. NeXT also paid to continuously display the NeXT vs. Sun video on a 16-monitor video wall outside the show floor.

After receiving complaints from Sun, expo management cancelled NeXT's video wall presentation on the third day of the show.

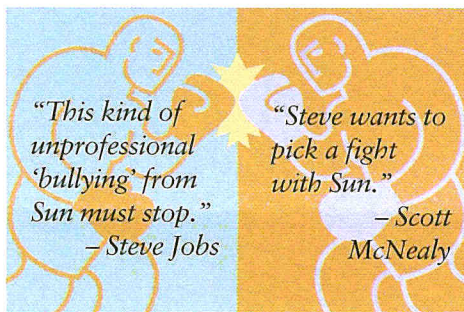
"Steve wants to pick a fight

with Sun because he thinks that would put him in the big leagues," said Sun CEO Scott McNealy. "Who cares about NeXT? We worry about IBM, DEC, HP, and Microsoft," he said.

The two companies have been exchanging barbs ever since Jobs identified Sun as the "mother of all competitors" at NeXT-WORLD Expo in January.

In his keynote speech at SunWorld, McNealy criticized NeXT for its lack of adherence to industry standards.

The latest round of hostilities began when NeXT learned of a Sun sales presentation that criticized NeXT's technology and business viability (see "Mud flies in Sun-NeXT skirmish," *NeXT-WORLD Extra*, March 1992). In response, Jobs wrote the ten-page



open letter to registered customers titled "Sun Declares War on NeXT." The letter rebuts 30 statements, including allegations that Jobs is meeting the company's payroll out of his own pocket; Canon is looking for a buyer for its shares; and NeXTSTEP [SEE SUN, PAGE 8]

Jobs endorses Perot campaign

by DAN LAVIN

San Francisco - NeXT CEO Steve Jobs has endorsed H. Ross Perot, a principal owner of NeXT Computer, in the Texas industrialist's campaign for president of the United States.

"Absolutely I endorse him," Jobs said in an interview at the recent DBExpo show here. He cited Perot's "belief in the worth of the common individual" as an important personal trait. In his DBExpo keynote, Jobs said, "Having known Ross for several years... he'd make an awesome president."

Relying on a populist message, Perot has pledged to run if volunteers get his name on the ballot in all 50 states, according to published reports. He will use his considerable fortune to fund the campaign himself.

Perot invested early in NeXT

and was on the board of directors until he resigned (see "Perot leaves NeXT board," *NeXTWORLD Extra*, January 1992). Company officials conjectured that Perot resigned in preparation for his presidential bid.

Many NeXT developers and customers are joining Perot's campaign. Phil Fuster, a NeXT federal-marketing [SEE PEROT, PAGE 8]

Boss Logic changes course

by DAN LAVIN

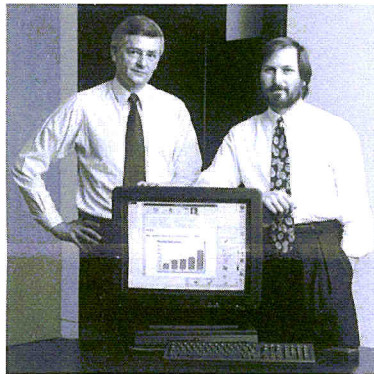
Fairfield, IA - Boss Logic is the latest NeXT developer to refocus its strategy, raising \$3 million in venture capital, spinning off a new company, and forming a development partnership with Frame Technology.

New prez backs vision

by DAN RUBY

Redwood City, CA - NeXT's new president and chief operating officer, Peter van Cuylenburg, said in an interview that he agreed to join NeXT because he supports the company's new strategic focus on custom applications.

After declining several previous offers to join NeXT, "I have bought into the view that NeXT can be a \$1 billion company," he said. "What NeXT is doing for software development in the 90s is as important as what Macintosh did for user



Van Cuylenburg: "I like building companies to work well, just as Steve likes to do that for computers."

friendliness in the '80s.

"There has been an important change in focus during the last year," said van Cuylenburg. "There is a recognition that we are not trying to create a second-generation PC market, but applying workstation capabilities to the market for professional, job-specific applications."

Van Cuylenburg, 43, was most recently chief executive of Mercury Communications, a public telecommunications company in England. He also spent 16 years at Texas Instruments (TI), ending as vice- [SEE VAN CUYLENBURG, PAGE 8]

An important message to NeXTstep™ application developers.

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OR

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Within The Interface Builder™

OR

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Complain

by SIMSON L. GARFINK

Princeton, NJ – Customers have voiced a wide range of complaints ranging from delayed orders to faulty products against NeXT, a vendor of modems and data-communications software for NeXT computers.

The complaints also include claims of poor technical support, failure to honor warranties, and failure to provide customers with beta software with final releases.

"I've sent several e-mail messages, faxes, [and made numerous] phone calls. None have been replied to," said Philip McDun-

3.0 schedule in doubt as beta ships late



by SIMSON
GARFINKEL

Redwood
City, CA –
NeXT missed

its April 1 deadline for delivery of beta copies of NeXTSTEP 3.0 to third-party developers. The company now expects to deliver the prerelease software later in the month, about three weeks late.

Despite the delay, however, NeXT contends NeXTSTEP's 3.0 final release is still on track for the second quarter, though some industry insiders and developers doubt that the company will make its self-imposed deadline.

In other NeXTSTEP news, NeXT revealed in March that NeXTSTEP 3.0's built-in support for reading and writing Macintosh floppy disks will be based on the popular FloppyWorks program from Digital Instrumentation Technology (DIT).

"They built it into the kernel," said Jeff Lawrence, DIT's marketing manager. Because it is in the kernel, users of NeXTSTEP 3.0 won't be forced to access their Macintosh floppy disks through a separate application program.

"Access to Macintosh data by NeXT users is a basic need that really belongs in the system software," said Lawrence. FloppyWorks will continue to sold as a separate product. ♦

Complaints rising on fax modem

by SIMSON L. GARFINKEL

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The complaints also include claims of poor technical support, failure to honor warranties, and failure to provide customers who have beta software with final releases.

"I've sent several e-mail messages, faxes, [and made numerous] phone calls. None have been replied to," said Philip McDun-

nough, a professor of statistics at the University of Toronto.

Neuron executives, however, disputed the claims. "We've had a few problems and we're working very hard to straighten them up," said Dan Gittleman, Neuron's president. "Everyone who has called us has been helped."

Neuron entered the NeXT market last fall with the \$1095 FAX96+ modem, which could transmit both data and faxes at 9600 baud. The Neuron modem came with Marble Teleconnect, Synapse, a VT100 emulator, and a UUCP-configuration program.

But FAX96+ customers who contacted NeXTWORLD reported a variety of problems with the product, including an inability to communicate with certain brands of fax machines and data modems, bugs with the software, and a failure on the part of Neuron to support Teleconnect. Customers also reported delivery delays up to two months long, despite the fact that Neuron had billed their credit cards when they made the order.

"I don't think that they set

out to harm anyone in the beginning," said one contractor who has worked closely with Neuron. "I'd say that they had cash-flow problems. I would attribute it to bad management of the project."

Neuron discontinued the FAX96+ in January, claiming that the problem was with the 9600-baud Digicom modem, not with its driver software. In place of the FAX96+, Neuron began offering the FAX1414 modem for \$895.

Neuron's Gittleman, however, had a different take on the situation. "We've had problems with people who haven't had any technical problem, but have complained about problems with the modem trying to get them to get us to give them free upgrades," said Gittleman, who refused further comment.

But that's not to say Neuron doesn't have satisfied customers. "There's still no other option that I've heard about that lets me do 9600-baud data and fax on the same port, and have it switch automatically," said Curt Welch, an independent NeXT consultant in Virginia. ♦

IPT software lets NeXT act as a Macintosh file server

by DANIEL MILES KEHOE

Redwood City, CA – Seeking wider appreciation by Macintosh users, NeXT Computer has quietly endorsed third-party Macintosh connectivity options offered by Information Presentation Technologies (IPT), of San Luis Obispo, California.

Though NeXT had earlier announced support for Macintosh floppy disks and AppleShare file servers as part of NeXTSTEP 3.0, the new endorsement clarifies the extent of Mac connectivity built into the new operating system.

Using NeXTSTEP 3.0, users will see AppleShare file servers that are connected to the NeXT via Ethernet. But built-in Mac connectivity in 3.0 is a one-way street – Macintosh users will not see any NeXTs on their network.

With IPT's \$295 uShare in-



IPT's print spooler offers the option of printing to NeXT laser printers or Mac PostScript devices.

stalled on a Mac, a NeXT becomes an AppleShare file server, accessible from any Macintosh through the Chooser panel. A \$195 companion print spooler offers the option of printing to 400-dpi NeXT laser printers or Mac-connected PostScript devices. IPT's \$195 mail host lets a NeXT exchange text-based mail between Macintosh and NeXT users, forwarding electronic mail worldwide through UUCP or Internet connections.

IPT's peer-to-peer Partner product, expected to ship in May for \$395, allows users on the NeXT to see Macintosh file icons in the NeXTSTEP File Viewer and be able to easily edit Macintosh-stored documents using NeXT-based applications such as Illustrator or FrameMaker.

"With the low-cost color printer, the NeXT is a big wow for Macintosh users," said Olivia Favela, IPT's vice-president of sales and marketing. "More importantly, there are a lot of people who are looking for more powerful machines to use as servers – and the NeXT is that machine."

"IPT's offerings go beyond our own," explained Tim Kreps, NeXT Computer's developer advocate for connectivity applications. Kreps agreed that IPT's products may boost sales of NeXTs among users of Macintosh networks, especially in high-end publishing. ♦

3.0 schedule in doubt as beta ships late



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"Access to Macintosh data by NeXT users is a basic need that really belongs in the system software," said Lawrence. FloppyWorks will continue to be sold as a separate product. ♦

NeXT-ready scanners breaking out all over

by DAN LAVIN

Hannover, Germany – With introductions by Sharp, Fujitsu, and other vendors at the CeBIT computer show here, the NeXT market is suddenly bustling with scanner offerings. There are now ten companies in the market offering more than 20 different scanner models.

The proliferation of scanners was unexpected at this time because third parties need to write specific software for each scanner, and because the worldwide market for scanners is still small.

NeXT attributes the trend to the clarification of its publishing strategy. "A year ago recruiting hardware manufacturers was much harder, but today our publishing story is much stronger," said Rob Poor, developer advocate for peripherals at NeXT. Poor referred to NeXT's Publishing Environment initiative, which aims to enhance NeXT's presence in the desktop publishing market.

Sharp Electronics GmbH showed a solution developed by reseller Aussteller Edge Systems Schneider GmbH. It includes its EdgeScan software and either a Sharp JX-320 or JX-600s scanner.

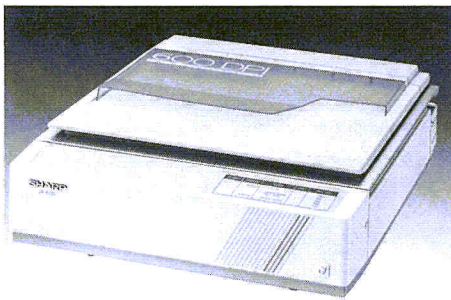
Fujitsu Deutschland GmbH showed proprietary scanner soft-

ware with its Fujitsu ImageScanner, a solution developed by reseller Aussteller Terracom GmbH.

When it comes to scanner performance, it's the software-driver technology that makes the difference. "With the proliferation of scanners on the NeXT, the differentiation is going to be the software that drives it, and perhaps most significantly how that software inter-operates with the other parts of the NeXT publishing solution," said Poor.

HSD Microcomputer U.S., the first vendor to offer a scanner for the NeXT, welcomed the new competition. "Glad to have you," said CEO Dave Peter. "Our customers need choices." Peter said he plans to compete on the strength of Scan-X, his scanner software.

The roster of flatbed scanner makers now includes HSD, Canon, Sharp, Fujitsu, Epson, and Nikon, through Second Glance Software. XRS makes a specialized flatbed scanner that handles transparencies and



Sharp joined the growing pack of scanners for NeXT with its JX-600s flatbed model (shown here) as well as the JX-320.

Optotech platform scanners for scanning 3-D objects. Pixelution Limited (U.K.) also has an interface to the popular Hewlett-Packard ScanJet. ♦

'Ship it,' developers say

by LAURIE FLYNN

Following on the heels of NeXTWORLD Expo, NeXT third-party developers have delivered on their promises of a barrage of new software.

DataPhile, from Stone Design of Albuquerque, New Mexico, is available now for \$695.

Lighthouse Design, of Chevy Chase, Maryland, shipped Concurrency, its much-anticipated

outline and presentation tool, for \$695.

Digital Instruments Technologies, of Los Alamos, New Mexico, released OnDuty, its \$395 contact organizer.

MIDIapolis Systems, of Minneapolis, released SoundBursts, a digital sound collections of clip sound, including Sound Effects and Percussion. Each collection includes 125 effects, and costs \$99. ♦

BUSINESS NEWS

Jobs' stake dips below 50 percent

North America buoys NeXT first-quarter sales

by DAN LAVIN

Redwood City, CA – For the first time since the company's founding, NeXT Computer disclosed recently that CEO Steve Jobs no longer owns half of all NeXT stock, with his stake falling to only 46.1 percent.

Jobs's decline in shares is not the result of the sale of stock but caused by the issuance of more shares in the company, presumably to Canon and NeXT employees. Recent company documents disclosed that Canon has increased its stake to 17.9 percent of the company. According to sources, Canon invested an additional \$10–\$20 million in the company in December 1991.

NeXT employees now own almost 24 percent of the company, up from 20 percent a year ago. Employees at NeXT typically rely on future stock appreciation through options as a significant part of their compensation. Every employee receives options that vest over four years when they join NeXT, presumably leading to the increase in employee ownership. The percent owned by Texas billionaire H.

Ross Perot also declined.

When NeXT goes public, the current owners' stake will drop even more. Between 20 percent and 40 percent of a company's stock is typically sold to the public during an IPO, according to Brian Mutert, president of San Francisco-based Strategem Investment Banking. Jobs's stake would probably drop to between 28 percent and 37 percent.

The current drop in Jobs's stake conflicts with the popular perception that he would always retain a majority of stock to avoid a repeat of his ouster from Apple Computer. But with the almost one-quarter interest held by employees, Jobs still has full control of the company.

Still, keepers of the NeXT flame are nervous about Jobs ownership dropping below 50 percent, regardless of his retaining control. "I'm fairly sur-

Who owns NeXT?

Percent ownership of NeXT stock

	Jan. 1991	March 1992
Jobs:	50	46.1
Employees:	20	23.9
Canon:	16.67	17.9
Perot:	12.51	11.3
Stanford/CMI:	0.82	0.7

prised," said Dave Pollak, co-director of the Boston Computer Society NeXT User Group.

"Between the recent management changes and this stock news, it looks like Apple all over again," he said. ♦

NeXT gets a capital idea

Redwood City, CA – While the designers of NeXTstep 3.0 were busy revving the operating system, graphic designers over at CKS Partners in San Francisco were busy revving the logo of its flagship product, NeXTstep. Make that NeXTSTEP. Why bother, you

ask? "[Steve] liked the way it looked," said a company spokesperson. "It's just one of the many mysteries of this strange and wonderful place," added Mike Slade, NeXT vice-president of marketing. (The new capitalization has already been trademarked.)

Redwood City, CA – Despite a slight decline in worldwide revenues stemming from problems in Europe, NeXT's closed its first quarter March 31 having met its sales goals for North America.

While the company has not yet released the results officially, sources report that North American sales were strong, while NeXT Europe, with the exception of Germany, had a disappointing quarter. The decline in Europe appeared to be continuing fallout from the failed strategies of the former

European management team, which was replaced last month in a sweeping reorganization (see "Shakeup in Europe," NeXT-WORLD Extra, April 1992).

The North American success is seen by some NeXT representatives as a validation of NeXT's new strategies, including the mission-critical custom-application strategy spearheaded by Mike Slade, vice-president of marketing, and the direct-selling model favored by Todd Rulon-Miller, vice-president of sales.

"We're seeing the focus of the last nine months paying off," said Slade, declining specific comment until final numbers are released in May.

Reports on NeXT's performance in Asia were sketchy, but sources contend that revenues from that region remained about even.

Sources contend that NeXT's worldwide shipments for March were between 2400 and 2600 units. This figure was helped by the shipment of the new NeXT-station Turbo Color in the last days of March. ♦

Lotus, SBC/C real-time fin

by SIMSON L. GARFIN and LAURIE FLYNN

Cambridge, MA – Lotus Development Corporation plans to announce next month a codevelopment deal with Chicago-based Swiss Bank Corporation/O'Connor Services (SBC/OC) to create a real-time trading application based Improv. The project is being funded in part by NeXT Computer.

The software will be available in the third quarter from SBC/OC according to Gary Meshell, Ne York-based international sales manager in Lotus's financial services division. Meshell said NeXT Lotus, and SBC/OC plan to announce the product June 25 the Securities Industry Association show in New York. Meshell declined to give further details.

The development deal should give a boost to sales of Improv whose fate has recently been subject of speculation. Lotus officials said that Improv 2.0 would be available for Windows by end of the year but have made comment about when the upgrade would be available for the NeXT.

According to Jeff Anderhug, Improv group product manager at Lotus, sales of the NeXT

Think. Organize. Communicate. Few are born with the ability to excel at all three. One software system is. *Who's Calling?* The most advanced contact management and scheduling program there is. With modules for group scheduling, tracking client information, conversation histories and live network messages. *Who's Calling?* has multi-media capability. And plenty of flexibility and power—as much

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What if you could be as smart as this.



Organized as this.

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19? The most information, consumer—as much



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Lotus, SBC/OC team up on
real-time financial software

by SIMSON L. GARFINKEL
and LAURIE FLYNN

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According to Jeff Anderholm, Improv group product manager at Lotus, sales of the NeXT ver-

sion have dragged because of a "fairly long evaluation-sales cycle for NeXT hardware." But, he added, sales have increased gradually over the past year.

"We can only sell units as fast as NeXT expands the market," Anderholm said. "Furthermore, the majority of people who bought NeXT machines last year already had Improv," he said, because NeXT bundled Improv with hardware upgrades during the first quarter of 1991. ♦

NeXT going to races

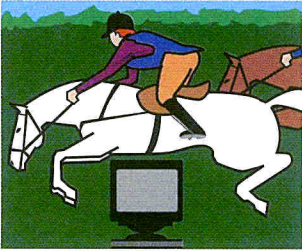
by ELIOT BERGSON

Lexington, KY – Before the jockeys put on their silks and the first mint juleps were poured at the Kentucky Derby on May 2, a NeXTcube in the offices of the Association of Racing Commissioners International (ARCI) had let local race officials check on volumes of information surrounding the annual Run for the Roses.

The '040 Cube, with 40MB of RAM and 2.5GB of disk space, allows racing commissioner and race-track officials around the

world to check on licensing, court rulings, and suspensions for jockeys and trainers, according to Neil Greene, director of computer information services at ARCI.

Racetracks and commissions access the system through the Tymnet global network by dialing a local phone number. An Oracle 6.0 SQL database maintains all rulings and licensing histories since 1974, when the system was originally designed. "Computer technology has changed since then – there was no concept of fields, restricted searches, or other simple



database features," said Greene.

The system also compiles statistics relating to wagering, attendance, and purse distribution. "Racing's changing fast, so the statistics had to change, too. Now we do off-track, intertrack, and simulcast wagering," said Greene.

It was this complex wagering system, and the fact that jockeys race in several states, at tracks administered by different commissions, that led Greene, founder of the Kentucky NeXT User Group, to push for a NeXT as host for the database. He explained that as use of the system grows, commissions and tracks should replace their various stand-alones and mainframes with NeXT machines.

"In the long term, I want to go to a more distributed network, and do our networking through ISDN. I want commissioners to have much better communication," he said. ♦

Sales Watch			
As NeXT continues to gain market share, we'll keep track of some large recent purchases.			
Customer	Application	# of Units	Major Software
Delo Publishing Company Ljubljana, Slovenia Daily newspaper, magazine publication	Management of wire-service news and images, data archiving, integrated working environments for all editorial and graphics departments	98	Custom applications by Skeleton Crew USA, Illustrator, Virtuoso, Improv
Trirex Systems Westport, Connecticut Software development and consulting	Inauguration of NeXT training facility, development of installation package for large sites	50	Custom applications, NeXTSTEP development tools
Alberta Solicitor General Motor Vehicle Division Edmonton, Alberta, Canada Provincial government	Motor-vehicle registration, office automation, document handling	400-500 (65 currently on-site)	Custom applications by DKW Systems, Improv, WordPerfect

for the single user as for the network. The program can be modified to fit each user's needs or Adamation can tailor custom applications into *Who's Calling?* If you want your business to think better, plan better, and communicate better, act today. Contact your NeXT reseller or NeXTConnection at 1 (800) 800-NeXT for pricing and ordering information.



Communicate like this.



WHO'S CALLING? from ADAMATION.
For productivity,
it's the NeXT logical step.™

Imagine offers authoring tool

by LEE SHERMAN

Ann Arbor, MI – Imagine Multimedia, creator of MediaStation, has announced InterActive Author, a graphical scripting environment for the NeXT.

Using a flow-chart metaphor, the program allows developers

to create interactive training systems, presentations, and games without having to learn a scripting language.

InterActive Author includes three linked modules that provide authors with the tools necessary for constructing multimedia applications. The Navigator module

provides a graphical overview of an application through a hierarchical browser; the Simulator module builds the front end of the application and tests the finished product; and the Sequencer module synchronizes time-dependent media such as sound and video.

According to Imagine CEO Ken Slayton, the combination of InterActive Author and MediaStation provides a complete

multimedia publishing solution.

The software will generate CDI-Talk, a high-level language that can be used to build CD-I (for "interactive") master discs, which are beginning to emerge as the distribution standard for the consumer multimedia market.

Interactive Author is expected to ship in September. Pricing has not yet been set. Imagine can be reached at 313/930-7777. ♦

Dev camp goes east in Trirex deal

by ELIOT BERGSON

Westport, CT – NeXT Computer has signed a contract with Trirex Systems, a software developer and long-time UNIX consultant located here, to offer the first off-site NeXT Developer Camp and system-administration training in the United States. Open enrollment classes will begin May 18.

"We're hoping to become the strongest support center in the Northeast," said Sonjoy Jethmalani, Trirex's vice-president. The company has been assisting strategic NeXT corporate sites, including Phibro Energy, Union Bank of Switzerland, and Preferred Health Care, to develop and implement their new systems.

Trirex has used their specific custom-application development expertise to develop a suite of "infrastructure apps" as a foundation for any major installation, according to Jethmalani. These include an alert manager, an automated software distribution system, and a network scheduler.

Trirex's consulting expertise was the key in deciding to offer training there, according to Liz Harris, NeXT's manager of customer education. "We want to make NeXT developer training accessible to all NeXT customers, so they can see past the training to prototyping, getting good designs in place to solve challenges, and improving project-management abilities. More people help to get it done faster," she said.

Instructors at the newly constructed facility will initially come from NeXT, but the company is concentrating on training instructors at Trirex and Sypac, a Toronto-based UNIX consultant and training center for Canadian users, as integral parts of the NeXT Training Consortium. The consortium, formed in 1991, signalled a shift in NeXT's after-sales strategy from simply maintaining control to taking a more proactive approach and offering direction. It also includes VARs doing software and productivity training.

NeXT will continue to offer developer and sysadmin training in Redwood City, California, and Chicago, having moved its Pittsburgh facility.

Trirex Systems is located at 315 Post Rd. W., Westport, CT 06880. Call 203/221-4600 or 800/765-6543. ♦

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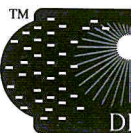
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Dev camp goes east in Trirex deal

by ELIOT BERGSON

Westport, CT – NeXT Computer is signed a contract with Trirex Systems, a software developer and long-time UNIX consultant located here, to offer the first off-site NeXT Developer Camp and system-administration training in the United States. Open enrollment classes will begin May 18.

“We’re hoping to become the longest support center in the Northeast,” said Sonjoy Jethamani, Trirex’s vice-president. The company has been assisting strategic NeXT corporate sites, including Phibro Energy, Union Bank of Switzerland, and Preferred Health Care, to develop and implement their new systems.

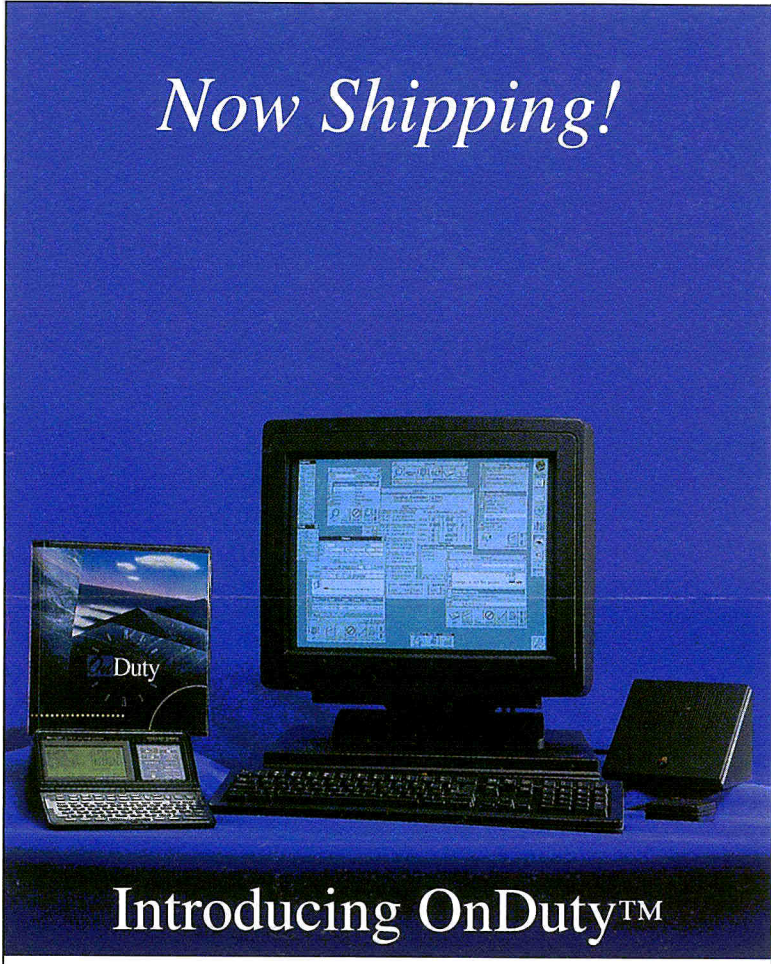
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Trirex Systems is located at 115 Post Rd. W., Westport, CT 06880. Call 203/221-4600 or 800/ 765-6543. ♦



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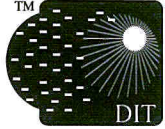
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NeXT helping disabled

by PAUL KARON

Northridge, CA – A small group of NeXT employees has been working without official company recognition to bring computers within reach of disabled people who have traditionally been locked out of personal computing.

NeXT attended the mid-March conference here on Technology and Persons with Disabilities, sponsored by the Office of Disabled Student Services at California State University Northridge. It was NeXT’s third year at the conference, and the company’s highest profile yet at the annual conference. “It’s all volunteerism,” said Max Henry, vice president and general manager of Pacific operations at NeXT.

“It shows the kind of people at NeXT – even though we’re a small start-up, people volunteer to make the time to learn about this cause,” said Henry, who has personally pushed to improve accessibility of NeXT machines.

A number of issues must be addressed if a computer system is to be fully accessible, said Brent Lochen, a systems programmer at NeXT who works with Henry on accessibility issues. “We’re trying to get the right hooks into the operating system for developers to work on these issues,” he said.

For example, some users are unable to type, or use a standard

mouse, and so require an alternative input device, he explained. A sight-impaired computer user may have no difficulty typing, but would need some method – probably voice-activated – for ascertaining which applications or windows are currently active.

Using such input devices as the HeadMaster, a pointing device developed by Prentke Romich that is worn as a headset, users who cannot manipulate a conventional mouse can use the point-and-click technology fundamental to NeXT software.

One prototype system shown at the conference was developed by Cathy Haas, a lecturer at Stanford University in Palo Alto, California. Haas, who is hearing-impaired, teaches sign language. With Lochen’s help, she has developed a NeXT-based system for teaching sign language. The system integrates images from a video camera with text and other inputs for display in various windows on a NeXT monitor.

Haas previously had developed a Macintosh-based system, but said the NeXT platform proved to be superior.

“The resolution of the computer is excellent,” said Haas. Students can follow the examples of sign language, replay them as many times as desired, and at any speed. “The video is very fast, and it’s easy to change the speed.” ♦

RightBrain ships code

by DAN RUBY

Palo Alto, CA – Faced with competition from more full-featured utility programs, RightBrain Software last month announced that it would begin shipping the source code of its four \$95 utility programs along with the shrink-wrapped software. The move is unusual, because it gives users a license to modify the programs for their own needs.

RightBrain’s LaunchPad and Portfolio Workspace extenders were to have shipped with bundled source code during April. The company said that LockScreen and Rulers would be released with source code in the near future.

Glenn Reid, president of RightBrain, said that bundling source code fits with NeXT’s marketing strategy to position NeXTSTEP as an easy-to-use development environment. “This

permits customers to add the features that they need when there is no incentive for us to add them for all users,” he said.

Under the license, users can modify the programs for their own use, but they may not reuse the source code in competitive commercial products. Reid said that RightBrain will continue development on new versions of its utilities.

“This is a very cool and innovative move for RightBrain. It’s a great strategy that works well for both the shrink-wrap customer and the corporate developer,” said NeXT CEO Steve Jobs.

Reid said that sales of the utilities have been strong, but the company hopes that adding source code to the package will increase sales. He said that Right Brain would not ship source code with its forthcoming PasteUp page-layout program. ♦

B R I E F S
C o n t i n u e d

March from NeXT Computer in order to develop software independently. He is credited with designing Appsoft's Pixelist pixel editor and the animation program Oscar. Prior to joining NeXT in 1987, Ohlfs designed software at Adobe Systems.

Adobe Systems is shipping Adobe Illustrator 3.0.1, a maintenance release that fixes bugs in Version 3.0. The company has also added 21 Type 1 fonts to the update, including Adobe Garamond, Gill Sans 1, and Copperplate Gothic. Adobe Touch-Type 2.1.1 also now includes 12 additional fonts, including Franklin Gothic Roman #2, Cooper Black, VAG Rounded Bold, and Trajan Regular. Adobe: 415/961-4400.

NeXT Computer is offering free audio tapes touting the benefits of NeXT and NeXTSTEP for corporate and small-business users. The new tapes are titled "What's NeXT in Business: Keeping the Competitive Edge" and "What's NeXT in Business: Phibro Energy." To order, call 800/879-6398.

Paget Press announced an agreement with Atherton Software to distribute Atherton's Engage Dock extender. Under the terms of the agreement, Paget will sell to end users and Atherton will manage site licenses and sales to user groups. The price is \$99. Paget: 800/733-2031.

Word Perfect Corporation recently announced the resignation of Executive Vice-President W.P. "Pete" Peterson. Rather than replace Peterson directly, the Orem, Utah-based company plans to distribute his responsibilities among other executives. The departure has led to a reorganization of the company's board of directors.

NeXTWORLD Extra is a supplement of *NeXTWORLD* magazine. It is published monthly by Integrated Media, a subsidiary of IDG Communications, 501 Second St., San Francisco, CA 94107, and is distributed free to subscribers of *NeXTWORLD*. Lt. Sullivan's column and articles about unannounced NeXT products are reported and written by contributors without guidance from the *NeXTWORLD* staff.

Editor: Dan Ruby; Executive Editor: Laurie Flynn; News Editor: Dan Lavin; Staff Writer: Simson L. Garfinkel; Layout Chief: Sue Troy; Copy Editor: Eliot Bergson

Boss Logic [CONTINUED FROM PAGE 1]
located in Menlo Park, California, and Frame Technology, of San Jose. Boss Logic President Peter Rip said the additional investment would be used to launch a line of packaged software products in the document-management/work-flow market.

The agreement with Frame fits neatly into this strategy, since Frame already calls on the largest accounts in this market. Under the agreement, Frame will distribute Boss Logic software and together the two companies will develop workgroup-publishing programs based on joint technology. The two

companies will release their first joint product in the second quarter.

Boss Logic has built its reputation building custom applications for customers such as Minneapolis-based Northern States Power and the Los Angeles County Sheriff's Department. As these contracts expire, Boss Logic is spinning off its custom development work to Integrity. Headed by Dan McCreary, currently director of systems integration at Boss Logic, and headquartered in Minneapolis, Integrity will begin operations in June. The company will be funded fully by its principals and operate independently of Boss Logic. ♦

Sun [CONTINUED FROM PAGE 1]
technology isn't portable and has limited drag-and-drop capabilities.

But while Jobs's cover letter states that "[by] all indications, this document originates from the top levels of Sun," Sun says the presentation was the work of a Sun salesperson who distributed the material without the knowledge of corporate marketing.

NeXT has also leaked another internal Sun document called "Competing against NeXT, or Changing the Rules of the Game." The memo advises Sun salespeople to counter NeXT's advantages in ease of development by promoting Sun's strengths in open systems,

development tools, client-server models, networking protocols, scalability, and third-party software base. But it also gives a nod to NeXT's advantages with statements like: "They have found their mark in accounts where end-users need rapid development and prototyping . . . NeXT will win when the sale is reduced to easy end-user, object-oriented development."

While NeXT publicly complains that such documents amount to "slander sheets" and "unprofessional bullying," NeXT executives admit they enjoy the attention and see such material under a Sun logo as backhanded compliments. ♦

van Cuylenburg [CONTINUED FROM PAGE 1]
president of TI's information technology group.

Van Cuylenburg will join Steve Jobs in a newly created "office of the president." He will also join NeXT's board of directors.

He said his background at TI paralleled NeXT's current focus on custom applications. At TI, van Cuylenburg changed the marketing focus for the company's Explorer workstations from artificial intelligence to rapid prototyping and development of applica-

tions in the transportation market.

Van Cuylenburg said he did not expect any difficulties in working together with Jobs. "Steve is a lot older and wiser than he was when John Sculley came to Apple," he said. "He understands that building a global business is multifaceted challenge and that he alone doesn't have all of the skills needed to do that. I like building and designing companies to work well just as Steve likes to do that for computers." ♦

Turbo Cube [CONTINUED FROM PAGE 1]
standard across the NeXT line. Prices for the Turbo Cube start at \$10,995 for a machine with 16MB of RAM and a 400MB hard disk.

With the new Cube, NeXT no longer supports the optical disk technology included in the old Cube. The new memory chip in

the Turbo Cube is also incompatible with the old model.

Though once the cornerstone of the NeXT line, the Cube is now a niche product. The only difference today between the Cube and the NeXTstation are the Cube's expansion slots and two full-height bays for storage devices. ♦

Perot [CONTINUED FROM PAGE 1]
representative in Washington DC, is involved in the effort there, which may use NeXT machines to run the local campaign. Dan Goldman, a user at Argonne Labs, is volunteering in Chicago.

"In general, a tremendous number of computer people are involved in the Perot campaign,

especially in the Santa Clara region," said Randy Freeman, vice-chairman of Perot's California campaign.

Perot was not available for comment on the fate of his NeXT shares in the event of his election. Presidents usually place their investments in a blind trust for the duration of their terms. ♦

Looking for love in all the wrong places

While NeXT and Sun were duking it out last month in Santa Clara, Sullivan found himself in Chicago on Agency business, so he dropped in at Comdex to assess the Windows damage. All the hubbub over operating systems that should be obsolete left him gasping, but he was able to pick up some interesting tidbits.

For an objective valuation on NeXTSTEP versus Microsoft's future OS, there was this item: Intel funded NeXT to the tune of \$1 million for the '486 port, while it ponied up only \$750,000 to Microsoft to get Windows NT on the platform.

Not much has been said about NeXTSTEP '486 since January. Yet there was Dell, which contrary to common perception has yet to announce an OEM deal with NeXT, quietly showing NeXTSTEP '486 in its booth.

At the Canon stand, Sullivan was able to price the native version of the bubble-jet color printer. It's not black and you'll need to make your own cables, but the Canon version costs \$500 less than the NeXT Color Printer — and it's identical in every other way.

One product that wasn't showing was Improv for Windows, lending credence to Lotus's ham-handed denials of last month's rumors that it was ending support for the NeXT version. Sullivan is satisfied that Improv 2.0 remains on track for later this year.

The well-known names behind Elegance, the would-be Appsoft challenger, are said to be making progress with the vulture capitalists, but they might have another problem now that Point of View Computing of Colorado Springs, Colorado, has shipped a collection of NeXT clip-art segments called — guess what — Elegance.

Speaking of well-known names in unlikely places, Sullivan got a chuckle while browsing through the .nib files in Glenn Reid's LaunchPad Dock extender. Sitting there plain as day was the iconized smiling face of Jayson Adams, whose Engage extender is Glenn's major competition. Jayson's trademark "nyuck, nyuck" laugh also turns up in the sound files. There's nothing wrong with this, since LaunchPad took advantage of NeXT's public-domain example files, which Jayson wrote, but it did leave Glenn with a slightly reddened face.

At NeXT, the 3.0 story is shaping up as a trade-off between features and ship

date. For now, the company is sticking by its second-quarter delivery projection but without much conviction. How far it slips depends on which features stay in. Already on the casualty list is the Apple Desktop Bus keyboard and mouse that Sullivan described some months back. Whenever 3.0 sees the light of day, it isn't unlikely there will be a 3.1 a few months later.

Meanwhile, plans are beginning to firm up for the first NeXT portable, and batteries are not included. After careful discussions with various potential users, Steve appears to have opted for a full-powered machine with the accustomed large display at the expense of some portability.

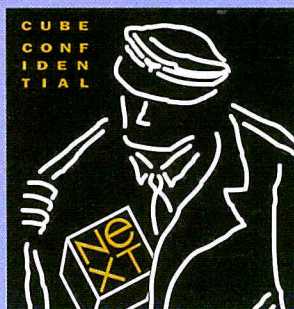
Apple's first portable settled for a heavy weight; NeXT's first portable will settle for a power cord. That means NeXT won't have to compromise on the processor, memory, or drive configuration. The display will almost certainly be Canon's hot new ferro-electric flat-panel display technology. It is a good way for Canon to get a real-world test in relatively small quantities while the yields are still low. And a new magneto-optical technology that's still under close wraps in Japan will possibly be handled the same way. In any event, you won't be able to get the luggage until next year sometime, but it might not hurt (to paraphrase Jean-Louis Gassée) to start pumping iron now.

The main body part that Sullivan has been exercising lately has been his data-entry fingers in Simson Garfinkel's beta address-book program. (When Simson sent out a call for product-name suggestions, the best feedback came from NeXT's Mike Slade, who offered DataFinkel.) Anyway, in one afternoon, Sullivan noted the change in numbers for Keith

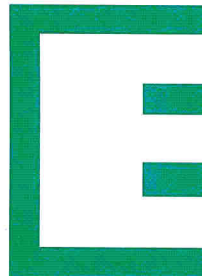
Ohlfs (from NeXT to private practice), Jack Reynolds (HSD to RightBrain), unrelated Rick Reynolds (BANG presidency to Publish magazine), and Dan'l Lewin (Go to Kaleida).

If you're switching jobs, there's no reason to leave all that secret information behind. Show up for your first day in a stylish Sullivan T-shirt signed by Steve Jobs. Acquire yours in exchange for an insider tip sent to sullivan@nextworld.com or his voice mail at 415/978-3374.

Lt. Sullivan



NEXTWORLD



NEWS
IN BRIEF

IP Design, of Santa Monica, California, will release this month an update to its Parabase database product, adding support for Oracle. Release 1.1 also includes scripting facilities for creating custom menus for opening forms, calling user-defined procedures, and running custom reports. The new version also includes user-definable selection lists. An object-oriented programming interface for extending Parabase will be available later in the year with the release of NeXTSTEP 3.0, according to the company. Users of Parabase 1.0 will be able to upgrade for a nominal price. The list price is \$695. IP Design can be reached at 310/394-1820; e-mail: brad@ipdesign; or fax: 310/393-7245.

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Motorola Corporation said it expects to deliver a 40MHz version of its 68040 microprocessor by the third quarter. A 50MHz version of the 68040 chip is expected in limited quantities before the end of the year.

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leave all that secret information stylish Sullivan T-shirt for an insider tip sent to 15/978-3374.

NEXTWORLD

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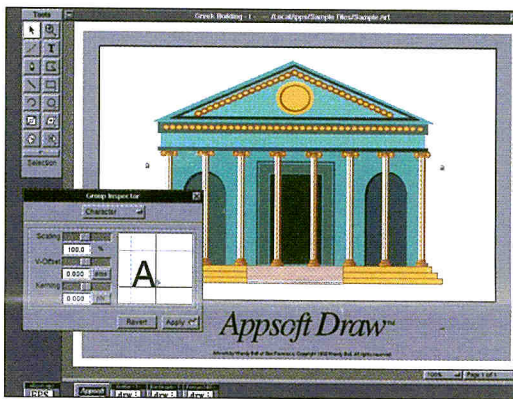
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Appsoft Draw, a graphics illustration program based on software acquired from Media Logic, sports a radically simplified user interface. Users had complained that the initial version was "convoluted."



Release of Draw gives Appsoft stronger hold

by DAN LAVIN

Redwood City, CA - Appsoft in May released its drawing and illustration program, Draw, a revised version of the software previously marketed by Media Logic under the name TopDraw.

The release of Draw is a milestone for the nine-month-old software company, representing its first product release that did not originate inside NeXT. And unlike WriteNow, which Appsoft released with no substantial changes from the version bundled with initial NeXT machines, Draw sports a new interface and other improvements over the Media Logic version.

Groundbreaking due for NeXT port of SimCity

by LAURIE FLYNN

Fort Collins, CO - With the arrival in late summer of SimCity for NeXTSTEP, mission-critical applications are not the only things NeXT users will be able to customize.

With SimCity NeXTSTEP, a NeXT version of the popular Macintosh and Windows program, users can plan custom-made simulated cities and communities, and model the effects of building projects on such elements as crime rates, traffic, and pollution. The NeXT version is being developed by LiveWare Corporation, but marketed by Dux Software, which owns the UNIX rights to the program.

Unlike [SEE SIMCITY, PAGE 10]

stone for the nine-month-old software company, representing its first product release that did not originate inside NeXT. And unlike WriteNow, which Appsoft released with no substantial changes from the version bundled with initial NeXT machines, Draw sports a new interface and other improvements over the Media Logic version.

Draw may prove to be a formidable competitor in the NeXT graphics marketplace. At \$395, it is significantly less expensive than either the \$695 Adobe Illustrator or the \$495 Create from Stone Design. Another potential competitor, Virtuoso, is delayed until late summer.

Appsoft is also now in a better position to [SEE DRAW, PAGE 10]

'486 makers eye video spec

by RICHARD RAUCCI

As NeXTSTEP '486 inches its way toward release later this year, PC hardware manufacturers are readying systems and add-in cards that are ideally suited to running the new software.

The crucial component is local-bus video, technology needed to drive PC displays faster than the 8MHz limit of the PC bus.

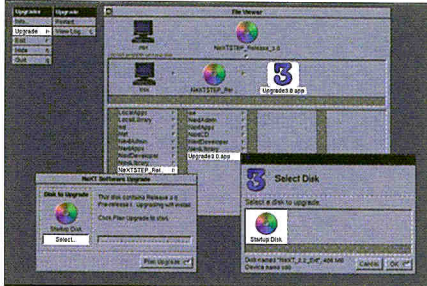
Probably the most significant development is underway at VESA, the Video Engineers Stan-

NeXT ships 3.0 beta

by SIMSON L. GARFINKEL

Early beta testers of NeXTSTEP Release 3.0 give the new system software a resounding thumbs up, reporting few problems or surprises with the April version. Furthermore, developers are reporting few problems in modifying their applications to support 3.0's new features, and nearly all applications developed under 2.1 worked without problems under 3.0.

For example, it took less than two days for Stone Design to modify Create to work with NeXTSTEP's new live links, reports Andrew Stone, president of Stone Design of Albuquerque, New Mexico. The biggest modifications resulted from changes made in the structure of [SEE NEXTSTEP 3.0, PAGE 8]



NeXTSTEP 3.0's upgrade application allows system administrators to upgrade an entire site over the network.

Motorola looks to 68060 chip

by SIMSON L. GARFINKEL

Austin, TX - After consulting with customers, Motorola Corporation said it has decided to cancel its 68050 microprocessor project and instead devote its resources to developing the

68060, a superscalar version of the 68040 microprocessor.

Traditionally, Motorola's odd-numbered microprocessors, such as the 68010 and 68030, have had only minor speed improvements over the previous generation. Each generation of even-numbered numbered parts, though, was designed to significantly boost system performance. NeXT currently uses Motorola's 68040 microprocessor in its NeXTstation and NeXTstation Turbo workstations.

Superscaling is a technique for increasing a microprocessor's speed by executing multiple instructions at the same time. Industry experts expect the 68060 to be between three and four times faster than the 68040, which would give the new processor a speed of approximately 75 to 100 MIPS. Like the 68040, multiple 68060 processors could be used in a single computer. The 68060 is expected to be available in engineering [SEE RISC, PAGE 10]

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NeXT license to standardize

by LEE SHERMAN

Redwood City, CA – In a move that brings NeXT Computer's superior tools for network management to heterogeneous networks, the company announced that it has begun licensing source code for NetInfo, the heart of distributed network environment. NetInfo gives system administrators easy access to, and control over, users, machines, file systems and other network resources.

In licensing the technology, NeXT hopes to gain support for NetInfo as a de facto standard for network-configuration management.

NetInfo offers several advantages over existing UNIX network-administration tools. Because the database is centrally located, changes can be made without having to log on to every computer on the network. In addition, many tasks, such as adding computers, printers, and users to the network, are made automatically.

"NetInfo has enabled us to bring the Macintosh model of plug-and-play to TCP/IP; that doesn't exist in the Sun world," said Kevin Wells, operating system product manager at NeXT.

NetInfo's graphical approach to network management includes such tools as NetInfoManager, NetManager, UserManager, and MailManager.

Codex Software Development, of Melbourne, Australia, has developed a product called NetInfo for Sun, which brings many of the advantages of NeXT-only networks to mixed networks comprising both NeXTs and Suns. "Never before have system administrators been given such elegant tools to manage a network," said J. Mat

ElectroFile, Inc.

by LAURIE FLYNN

As NeXT delivers beta copies of NeXTSTEP 3.0, NeXT developers continued to make good their promises of new software for the platform.

ElectroFile, an electronic filing and data-retrieval program from Insight Software, of Portland, Oregon, is now available for \$395.

Avatar Corporation, of Winton, Massachusetts, is now shipping InSession 3270, a

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NeXT licenses NetInfo; hopes to standardize mixed nets

by LEE SHERMAN

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Pryor of Codex. "We thought it would be great if you could also use those tools to manage Suns."

According to Pryor, NetInfo's concept of domains mirrors the structure of large organizations. As NeXT computers are added to sites dependent on other UNIX computers, NetInfo will play a bigger role in administering those networks.

The license fee is \$1000 for users, and \$2000 plus \$25 per copy for developers who plan to sell products based on NetInfo. ♦

'486 marketing gears up

by DAN LAVIN

Redwood City, CA – NeXT Computer's product-marketing team has made several strategic new hires in preparation for the release of NeXTSTEP '486 in the third quarter.

Former Sun Microsystems executive Bob Lawton has been appointed to the newly created position of NeXTSTEP '486 program manager. At Sun, Lawton was in charge of the project to put Solaris 2.0 on Intel systems. Jeff Spierer, formerly in charge of the Intel/IBM relationship at Intel, was appointed NeXTSTEP '486 marketing manager.

"These are industry heavies, senior people," said Ron Lang, director of software product marketing. Both have proven track records navigating the complex Intel marketplace.

According to company insiders, the hires are important to NeXT, both internally and externally. Lawton's move is viewed as a defection from a major vendor to its smaller rival. Having managed the Intel/IBM relationship, Spierer's arrival signals confi-

ElectroFile, InSession out the door

by LAURIE FLYNN

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ElectroFile, an electronic filing and data-retrieval program from Insight Software, of Portland, Oregon, is now available for \$395.

Avatar Corporation, of Hopkinton, Massachusetts, is now shipping InSession 3270, a com-

bination hardware unit and software for IBM 3278/3279 terminal emulation and file transfer. InSession 3270 costs \$1795.

Metrosoft, of San Diego, has released MetroTools, a \$129 collection of six utilities: a font installation program, an application launcher, an archiver, a file locator, a screen saver, and a sound-import program.

Maple V, an interactive algebra program, is now available from Waterloo Maple Software, of Waterloo, Ontario, for \$695. ♦

SBook tracks contacts

by LAURIE FLYNN

Cambridge, MA — Simson Garfinkel & Associates, a privately funded software start-up, is readying three new programs for the NeXT market, starting with an address book application complete with source code.

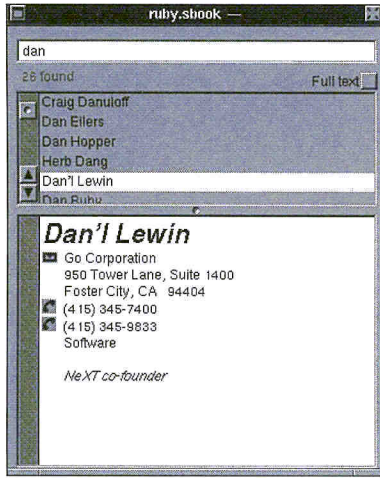
Simson's Address Book, or SBook, will be available this month for \$150, or \$50 for students. The program will ship with source code "because people will fix our bugs for free and send us the bug fixes," said com-

pany President Simson Garfinkel, a senior editor at NeXTWORLD magazine and author of several books about the NeXT.

Garfinkel said he is funding the start-up with personal funds. The new company has one employee, General Manager Orca Starbuck.

Garfinkel functions as technical editor for NeXTWORLD, which also publishes NeXTWORLD Extra. He will not work on articles about his or competitive products, said Editor in Chief Dan Ruby.

The company is also readying a text-editing assistant, called Edit Bench, which will perform NeXT-to-Mac text conversion. A \$2000 site-security program also under development will provide complete security for NeXT users, scanning for bad passwords and open directories and detecting programs that have been modified or infected by viruses or Trojan horses.



Simson's Address Book comes with source code so that "people will fix our bugs for free and send us the bug fixes," said President Simson Garfinkel.

The company will also sell books about the NeXT written by Garfinkel, whose titles include *Practical UNIX Security* and *NeXTSTEP Application Programming*, coauthored with Michael K. Mahoney, chair of the Computer Science Department at California State University at Long Beach. Books will sell for a 15 percent discount. ♦

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B Is ACE

by LAURIE FLYNN

ACE (Advanced Computer Environment), the once-mighty e on the part of PC-industry le ers to set a new standard for advanced desktop computing, may be going the way of so- proposed standards before it.

Conflicting corporate ag have combined with several cific events to muddle its me and weaken its impact.

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Date

June 1-3

June 29-July 1

July 20-23

July 26-29

B U S I N E S S N E W S

Is ACE in the hole?

by LAURIE FLYNN

ACE (Advanced Computer Environment), the once-mighty effort on the part of PC-industry leaders to set a new standard for advanced desktop computing, may be going the way of so many proposed standards before it.

Conflicting corporate agendas have combined with several specific events to muddle its message and weaken its impact.

For NeXT, the demise of ACE's once-lofty goals could be good news, since the prospect of five of the industry's most powerful companies joining to form a standard for advanced computing would mean formidable competition for NeXT's possible future RISC machine. "I think ACE is toast," said Ron Lang, NeXT director of software product marketing.

But ACE's representatives deny the consortium is in such dire trouble. According to Larry Weber, MIPS's vice-president of software technology, several ACE members, including Olivetti and Acer, have shown products based on the MIPS chip, and other members have committed to plans but not made them public.

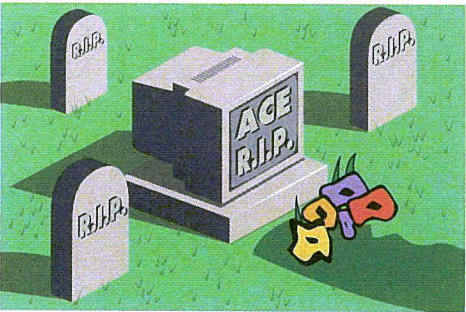
Most of the pessimism surrounding the consortium stems from Compaq Computer's recent cancellation of its machine and resignation from ACE. While the disclosure came as no real surprise to industry observers, given Compaq's recent strategic restructuring, it was considered a heavy blow to the consortium because of Compaq's stature in the industry.

Microsoft, too, denies that ACE is dead, and said it remains committed to delivering a version of Windows NT for the MIPS platform at the end of the year. "Microsoft remains committed to ACE," said a spokeswoman for

the Redmond, Washington, software giant. "The departure of just one company shouldn't make that much difference."

But that idea doesn't allow for the fact that Microsoft is also developing Windows NT for Digital Equipment Corporation's advanced-technology Alpha chip.

Observers also contend that the recent acquisition of MIPS by fellow ACE member Silicon Graphics is probably another factor weakening the consortium,



but MIPS denies that the claim is true.

"If somehow the acquisition made MIPS less effective [that might be true]." But look what's happened," said Weber, referring to MIPS continued plans for licensing its high-end products.

IPO groundwork heats up

by DAN LAVIN

San Francisco - NeXT CEO Steve Jobs gave his first speech to the investment community at Hambrecht & Quist's annual Technology Conference here in April. The keynote appearance raised speculation that Hambrecht & Quist will be chosen as the lead underwriter for NeXT's public offering, expected in the next 12 months.

The audience consisted of hundreds of analysts, investors, and money-fund managers that together have enormous impact on the success of high-tech companies entering the public market.

Jobs's speech stood out from other presentations because he gave a product demonstration instead of a speech dwelling on financial figures. This strategy succeeded, generating widespread interest in NeXT and its technology. In the words of *USA Today*, the audience was "wowed."

The opportunity to manage NeXT's public offering is hotly sought on Wall Street. It will be, in the words of one Hambrecht & Quist senior manager, "a large offering" and will carry substantial prestige, due to Jobs's fame and the historic success of Apple's public offering.

When asked whether there was any connection between Jobs's presence and the public offering, the same manager answered, "Of course there is. This [public offering] is our business. We'd love to do the NeXT deal."

In another speech, at the FCC-West conference in Los Angeles earlier in April, Jobs loosened the veil of secrecy surrounding NeXT's shipments with the statement that the company has shipped 50,000 units. A company spokeswoman later corrected Jobs's statement, saying the figure was closer to 40,000 units or better.

Appsoft ramping up after venture capital infusion

by DAN LAVIN

Redwood City, CA - Appsoft announced last month it has received "seven figure" venture-capital financing from Sequoia Capital, of Menlo Park, California. Appsoft will use the funds to expand its software-development efforts and beef up its engineering staff.

The new funding is Appsoft's second try at seeking venture financing, after having no success last year. "A year ago venture capitalists didn't find NeXT software a palatable basis for funding," said Randy Adams, Appsoft founder and president, who will retain a slim majority control after Sequoia's purchase. Up to now, Appsoft has been operating on regular infusions from Adams's personal assets.

Adams pointed out that this is the first venture funding for a company committed solely to the NeXT platform. Other venture-backed firms, such as Boss Logic and Pages, included multiple-platform strategies in their business plans.

"Maybe he [Randy Adams] found the one venture group in the world that is genetically unstable," said Sequoia Capital partner Michael Moritz jokingly. "We think NeXTSTEP will carve out a niche on the commercial desktop, and Randy Adams is our kind of guy."

Appsoft anticipates sales in excess of \$30 million in five years. In its business plan, Appsoft projects one million NeXT users will buy \$500 million worth of NeXT software by 1996. But Moritz said he thinks Appsoft can succeed even if NeXT sells only a few hundred thousand units over the next several years. "NeXT doesn't have

to be the next Sun in order for NeXT, Randy Adams, and ourselves to do well," he said.

In addition to the engineers, the company will add four new sales and marketing employees, putting marketing muscle behind its planned product line. Appsoft's strategic plan is to use its software-development expertise to develop products as well as significantly enhance products it publishes from other developers.

The company considers user-interface design its greatest strength. The recently released Appsoft Draw sports a completely redesigned user interface. Appsoft Image, a pixel-based image manipulation tool written mostly internally but based on software from NeXT, is due to ship this year. Also underway is a new version of Appsoft's NeXT version of the WriteNow word processor.

Neuron dark for six weeks

by DAN RUBY

Princeton, NJ - Concerned customers of Neuron were unable to reach the company last month as the troubled fax-modem manufacturer closed its offices for six weeks.

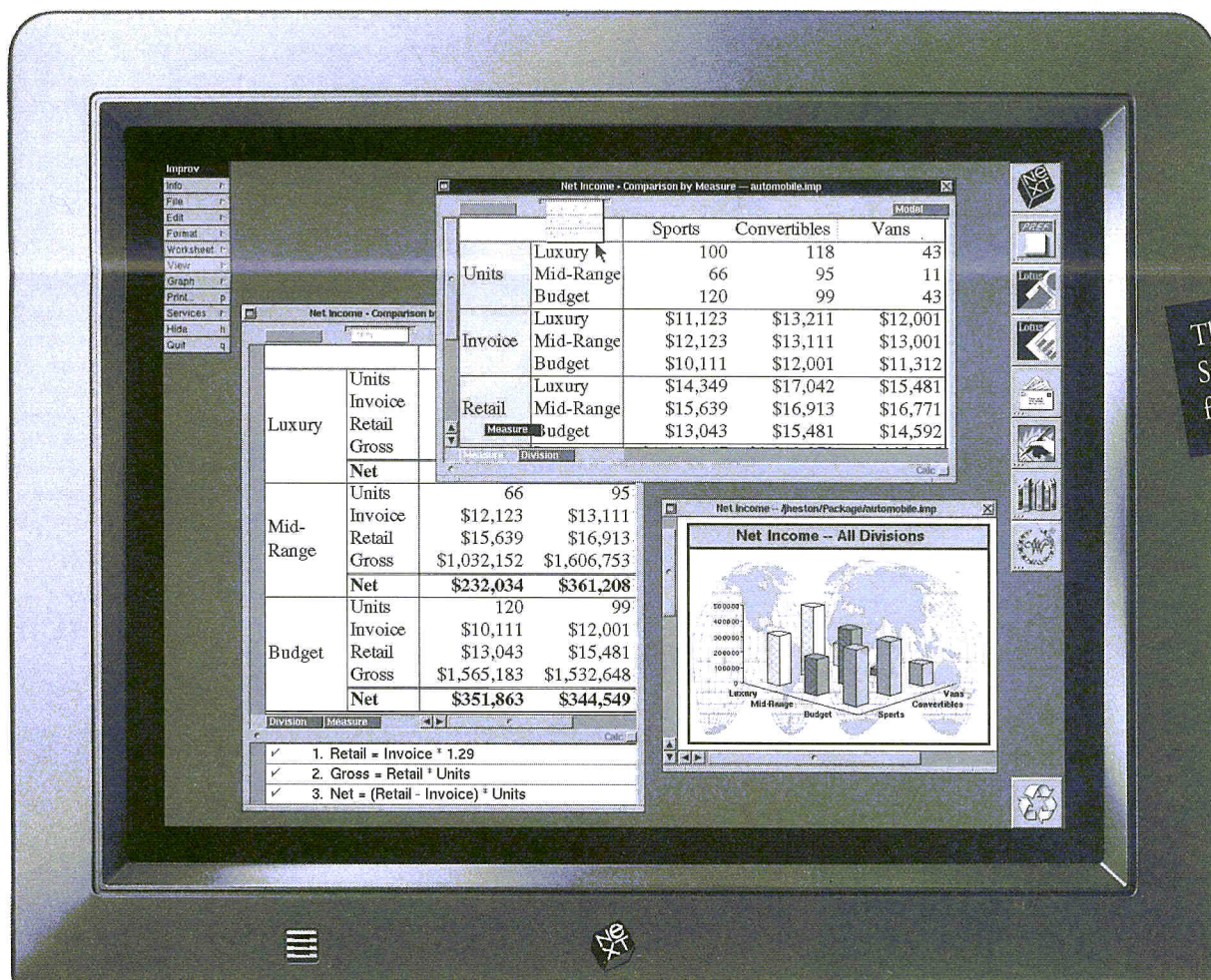
Callers to the company heard this message: "Thank you for calling Neuron Inc. The offices of Neuron Inc. will be closed until Tuesday, May 26, 1992. Thank you."

In recent months, Neuron has been besieged with customer complaints about product delivery and support (see "Complaints rising on fax modem," *NeXT-WORLD Extra*, May 1992). Neuron's product line includes the \$895 FAX1414 modem, a combination hardware/software unit designed specifically for NeXT computers.

Neuron is in arrears to various suppliers and creditors, and several Neuron employees have been laid off or have left the company, according to sources close to the company. In addition, the home telephone number of Neuron President Dan Gittleman has been changed to an unpublished number.

NeXT Events			
Date	Event	Location	Phone
June 1-3	Sybase User Conference	San Jose	800/767-2336
June 29-July 1	Security Industry Association (SIA) (Steve Jobs will keynote)	New York	212/608-1500
July 20-23	Object World (Steve Jobs will keynote)	San Francisco	508/879-6700
July 26-29	National Association of College Stores (NACS)	San Diego	216/775-7777

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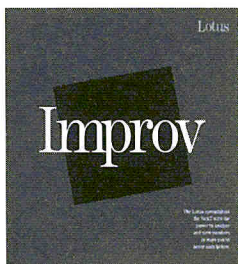


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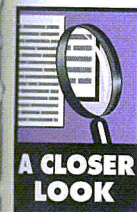
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3.0's encry



by SIMSON J. GARFINKEL

Redwood City, CA — By opting for Fast Elliptic Encryption (FEE) for its NeXTSTEP 3.0,

NeXT Computer may be once again bucking the computer industry's conventional wisdom and choosing superior technology over accepted standards.

FEE is a public-key encryption system: One encryption key (the public key) is used to encrypt a message while another key (the private key) is used to decipher the message. As currently envisioned for NeXTSTEP 3.0, FEE would work with NeXTmail, allowing users to receive encrypted messages that could not be decrypted and viewed by any other user on their system — even the superuser.

As such, it would provide near-total security for electronic mail.

But one of the problems facing any NeXT encryption software is U.S. export control. Federal law prohibits export of encryption software without direct approval from the Department of State — usually requiring a full review by the secrecy-conscious National Security Agency (NSA).

"We're still working with the government on whether we can export it," said Avie Tevanian, NeXT's director of software engineering. "They've committed to having an answer before we ship 3.0."

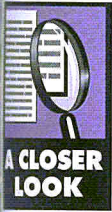
But if NeXT's FEE is as good as NeXT claims, the security that it provides may be its own undoing. That's because the NSA, which surreptitiously monitors all international telecommunications, has never allowed the export of a cryptographic machine with a code that the NSA could not itself decrypt.

If NeXT was denied clearance to ship FEE out of the country, NeXT could still sell a version of NeXTSTEP overseas with the encryption software removed. Overseas customers currently account for nearly half of all NeXT's sales.

In choosing FEE, NeXT has turned its back on RSA, an encryption system marketed by RSA Data Security, based here.

RSA is widely used in the computer industry. One of RSA's first commercial licensees was Lotus, which used RSA with its Notes groupware program, according to Jim Bidzos, presi-

3.0's encryption poses questions



by SIMSON L. GARFINKEL

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dent of RSA Data Security. Recently RSA has been licensed by Apple for use in the newest Macintosh operating system and by Sun Microsystems for its latest release, Solaris 2.0.

The algorithm used by RSA was developed in the mid-1970s by R. L. Rivest, A. Shamir, and L. Adleman, three professors who worked in the field of cryptography and number theory. RSA Data Security was founded in 1982, and in 1983 the RSA algorithm was awarded a U.S. patent. Because the algorithm technique is patented, RSA cannot be used without a license from RSA Data Security.

FEE is based on Elliptic Curve Encryption, a technique that was proposed in 1985 simultaneously by Victor Miller, at IBM's Yorktown Heights, New York, laboratory, and Neil Koblitz, a mathematics professor at the University of Washington.

The advantage of FEE over RSA lies in the size of encryption keys. The security of RSA is based on the difficulty of factoring large numbers; because of advances in number theory and computer speed, RSA keys of less than 512 bits are not considered secure.

The security of FEE, on the other hand, is based upon the difficulty of calculating discrete logarithms and inverting mathematical equations based on elliptic curves. Because the mathematics is more complex, FEE keys of 130 or 150 bits provide the same security as 512-bit RSA keys, said Scott Vanstone, an expert on cryptography at the University of Waterloo in Ontario, Canada.

"I think elliptic curves are the wave of the future," said Vanstone.

NeXT's "fast" encryption is based on a proprietary acceleration to the elliptic-encryption algorithm developed by Richard Crandall, chief scientist at NeXT. Although NeXT has filed for a patent on this acceleration, the underlying algorithm can be used without license, said Tevanian. NeXT has additionally published the format of its encrypted mail and the curves being used by the FEE system, so that public-domain mail readers can be developed that will be able to interchange encrypted mail with computers running NeXTSTEP.

NeXT is widely believed to have developed FEE to avoid the expense of licensing RSA, a contention that RSA's Bidzos challenges.

"NeXT is so far out in left

field when they claim that RSA is too expensive," said RSA's Bidzos. "They never asked what it would cost to use RSA. Those early comments that Jobs made – that RSA was too expensive, and therefore they developed FEE – are absolutely false."

Furthermore, said Bidzos, any use of public-key encryption is covered under provisions of the Hellman patents from Stanford University, and licensed to Public Key Partners, of which Bidzos is a principal. The coverage of those claims, however, has never been tested in court. ♦

British scientists turn to NeXTs, Cray to prove prime number

by LAURIE FLYNN

Redwood City, CA – When scientists in Maryland set out to verify the British discovery of the largest prime number, they elicited help from NeXTstations and Cray software produced on NeXT computers.

A prime number is an integer that can be divided only by 1 or the integer itself with no remainder.

According to NeXT, the role played by NeXT illustrates the portability and connectivity of NeXT technology, and the power

of NeXT development tools that enabled NeXT scientists to develop software on the Cray.

Using a supercomputer running software written at NeXT Computer, U.S. scientists were able to verify the new record prime number in about 16 Cray hours. The new number is $2^{756839} - 1$.

"When they stumbled upon this new prime number in England they asked a group of us – a team we call the 'Gang of Eight' – to prove the number was indeed prime," said Richard E. Crandall, chief scientist at NeXT.

The test was performed by David Smitley, a government scientist, on a Cray-2 at a government supercomputer center in Maryland. The NeXT software, written in C, was developed over the past two years. "Modern programs such as this one combine ideas from the fields of number theory and signal processing," said Crandall. ♦

Chicago floods send traders packing

Chicago – The Great Chicago Flood of April 3 was "just a water-main break" to traders here at SBC/OC until they got a call from their London office, according to Vice-President Bill Martin. "They saw it on the news," he said.

SBC/OC, the largest North American NeXT site, sent its Chicago-based NeXT users to London to continue working until the water receded. "We've learned to have completely ready hot backups," said Martin. ♦

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—BYTE Magazine, 10/90

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—Info World, 11/1/90

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"Geez, it's really 2am. I've been working about 6 hours straight now. The new version of DataPhile you gave me in Washington is a little bit too cool. Every now and then, I just jump up out of my chair and bounce around the room chanting, 'This is why I bought a NeXT! This is why I bought a NeXT!'"

— John Coppinger,
Kentucky NeXT Users Group

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— John Bartley, Partner
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— Leo Hourvitz,
Director of Software, NeXT

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— Jiro Nakamura,
NeXTwatch™ Newsletter

"This program is FANTASTIC! What a GEM that has been hiding!!!"

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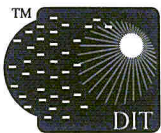
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OnDuty allows special tools to be added as separate modules. DIT's first add-on module, coming soon, will allow OnDuty to share appointments, name and reminder data with the Sharp® Wizard™ hand-held organizer.

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Sun hits NeXT's entry point

by MARGIE WYLLIE

Mountain View, CA — After months of public squabbling between NeXT and Sun Microsystems's executives over marketing tactics, NeXT now faces the sting of competition from a cheap color SPARCstation and price cuts on some monochrome configurations.

The new \$5995 version of Sun's SPARCstation IPC compares closely to NeXT's offerings, ringing in at \$1000 less than the least-expensive NeXTstation Color and \$2000 less than the Turbo Color. Sun's IPC runs at 15 MIPS, compared with the NeXTstation's 18.6 MIPS, and includes a 16-inch Sony monitor with 1152-by-900-pixel resolution and a 207MB internal disk. The NeXT comes with a 17-inch, 1120-by-832-pixel MegaPixel Color Display and a 105MB disk.

But despite NeXT's relatively small size and distribution channels, the company claims to be unconcerned about the new competition at the low end. "We don't expect this system to cause us any major grief," said Ken Jochims, CPU product manager for NeXT. "Our software is what's selling NeXT systems;

people in commercial markets aren't buying purely on a dollar-per-MIPS basis, or they'd buy Hewlett-Packard (HP)."

In its press release, Sun compared the new SPARCstation IPC configuration to workstations from IBM and HP, and even Compaq's top-of-the-line personal computer, all of which range from \$2000 to \$8000 more than the IPC.

Conceding that Sun's price cuts were more likely aimed at its larger competitors, Jochims admitted that "[NeXT] has been sort of kicking at the feet of the dinosaur" by criticizing Sun in public and running combative ads. "We're pushing Sun from the feature standpoint and HP from the performance standpoint," Jochims said. He added, however, that the competition between NeXT and Sun will intensify when NeXT delivers NeXTSTEP '486, software that can run on the same hardware as SunSoft's Solaris 2.X. ♦

Sun bumps into NeXT at the low end

	SPARCstation IPC	NeXTstation Color
Price	\$5995	\$6995
Speed	15 MIPS	18.6 MIPS
RAM	8MB	8MB
Capacity	207MB	105MB
Pixels	1152 by 900	1120 by 832

NeXTstep 3.0 [CONTINUED FROM PAGE 1]

NeXTSTEP's include files. "This is a lot more stable than the first 2.0 prerelease that I got," said Bruce Henderson, NeXTSTEP team leader at Pages, a San Diego-based NeXTSTEP developer.

Installing NeXTSTEP 3.0 is a two-step process, requiring both a floppy disk and the 3.0 CD-ROM. The user first runs a small program off a special floppy disk to replace the NeXTstation's Mach kernel with the updated kernel that supports 3.0's new features. The machine then reboots automatically, and the files on the attached CD-ROM drive become visible. Finally, the user runs the 3.0 upgrade application off the CD-ROM drive.

Once a single 3.0 system is upgraded, other systems at a customer's site can be upgraded over the network.

NeXTSTEP 3.0's upgrade application scans the user's hard disk and displays a list of which files the user modified. The program then gives the user the option of updating or not updating the customized files. If the

user wishes, the update application will automatically make copies of any files that the user has specially modified.

Unlike the 2.1 upgrade procedure, 3.0's updater will also update a workstation from 3.0 beta to the final 3.0 release — once that release becomes available.

The beta 3.0 CD-ROM includes NeXT's DBKit, AppleTalk, and Novell NetWare. Although there are substantial changes in the Workspace, Edit, and Interface Builder applications, NeXT's bundled Mail application remains largely unchanged. Furthermore, despite announcements at NeXT-WORLD Expo in January, the Mail application does not yet include any provisions for encryption (see "3.0's encryption poses questions").

The beta includes support for English, French, German, Spanish, Portuguese, Italian, and Swedish.

While NeXTSTEP 2.1 had mostly a monochrome interface, NeXTSTEP 3.0 makes ample use of color — so much use, in fact, that some early users have described the colors as "garish." ♦

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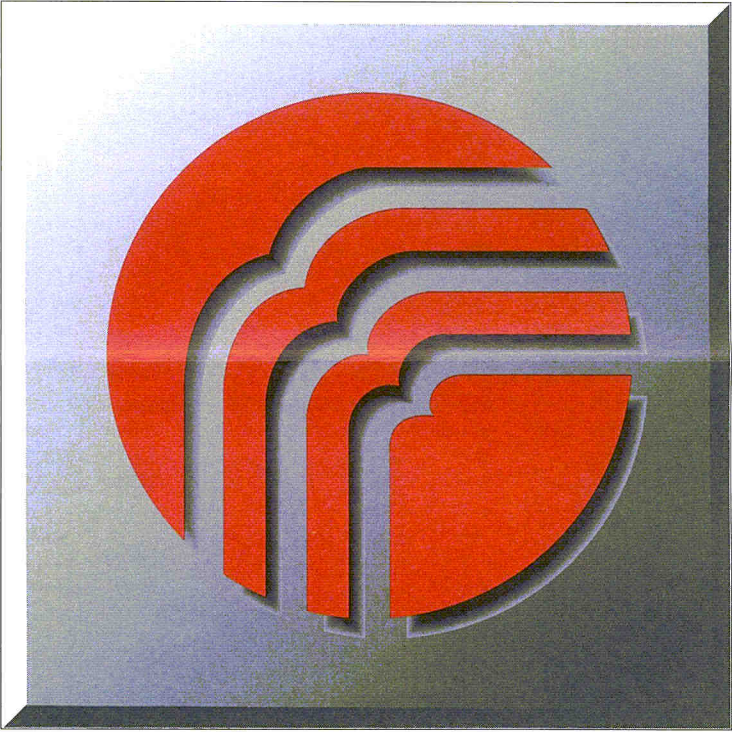
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B R I E F S
Continued

will be responsible for sales of all RightBrain programs, including the upcoming Paste-Up page-layout program, and the Adobe font library for the NeXT.

BANG, the Bay Area NeXT Group, recently announced the appointment of Joe Barelo as president of the Palo Alto, California-based group, replacing Rick Reynolds, who resigned to become technology director at *Publish* magazine. Barelo, an independent consultant in San Francisco, was previously managing director of BANG, a position he held for two years. The group also appointed Andrew Vyrros as treasurer, and Philip Smith as secretary.

Liveware, of Fort Collins, Colorado, has released its Key-Family, a collection of user-security programs for NeXT developers. The set includes KeyAccess, KeyDaemon, KeyInstall, and KeyGenerator. Liveware: 303/484-7607.

White Pine Software, of Nashua, New Hampshire, recently announced a new version of its eXodus X Window system display server. The new version includes a client launch function, enabling users to create scripts for launching X client applications; a copy graphics facility; and a built-in Motif Window Manager. The price is \$349. White Pine can be reached at 603/886-9050; e-mail: sdarling@wpine.com.

Correction
In the April issue of *NeXTWORLD Extra*, TopCAD was inaccurately identified (see "Ditek readies NeXT port of DynaCADD 3-D software"). The CAD program is published by Graphisoft.

NeXTWORLD Extra is a supplement of *NeXTWORLD* magazine. It is published monthly by Integrated Media, a subsidiary of IDG Communications, 501 Second St., San Francisco, CA 94107, and is distributed free to subscribers of *NeXTWORLD*. Lt. Sullivan's column and articles about unannounced NeXT products are reported and written by contributors without guidance from the *NeXTWORLD* staff.

Editor: Dan Ruby; **Executive Editor:** Laurie Flynn; **News Editor:** Dan Lavin; **Staff Writer:** Simson L. Garfinkel; **Layout Chief:** Sue Troy; **Copy Editor:** Eliot Bergson

RISC

[CONTINUED FROM PAGE 1]

quantities in 1993.

Motorola indicated the 68060 will be a complete redesign of the 68K family. It will borrow much of the superscalar technology originally developed for the company's 88110 RISC microprocessor.

Motorola's decision to beef up the 68K family may further confuse matters for NeXT, which is widely believed to be developing a new workstation based upon Motorola's 88110 microprocessor. Although the 88110 is a superscalar RISC microprocessor, it would have roughly the same performance as the 68040.

Furthermore, Motorola's commitment to the 88110 has been openly questioned in the computer industry since Motorola teamed with Apple and IBM to

develop the PowerPC RISC microprocessor family. Although the Ford Motor Company had committed to a billion-dollar purchase of 88K-based microcontrollers to improve engine fuel efficiency, the company decided to shift from 88K to PowerPC.

"Ford was counting on Apple's use of the 88110 to provide desktop systems for software development and to ensure the availability of a range of compilers and other development tools," wrote Michael Slater in *The Microprocessor Report*, an industry newsletter. "From Ford's perspective, the architecture itself is relatively unimportant, as long as it provides the minimum performance level they need and can be implemented in a reasonable amount of chip area," wrote Slater. ♦

SimCity

[CONTINUED FROM PAGE 1]

existing versions of the program, SimCity NeXTSTEP will include 350MB to 450MB of images, such as landscaping options, as well as NeXT animation, according to Liveware President Todd Nathan.

Nathan said that Liveware is working on porting the software directly to the NeXT but may end up rewriting the engine. If

the company opts for the rewrite, the program's introduction could be delayed by a few months, he said.

The Mac and Windows versions of SimCity are published by Maxus Software. Dux has just ported the program to Sun workstations.

Liveware can be reached at 303/484-7607; e-mail: Info@liveware.com. ♦

'486

[CONTINUED FROM PAGE 1]

one manufacturer has released a single-board CPU add-in card. Dolch Computer Systems, of Milpitas, California, has released the Apache passive backplane add-in card to provide local-bus video. Dolch is also developing a '486-based grayscale portable computer with plasma display that uses local-bus video. The company has plans for a color system in the near future.

"The '486 is more than ready for NeXTSTEP," said Mark Olson, manager of strategic marketing in the software technology group at Intel. "While Intel '486 PCs are already widely successful as workstations in commercial areas, NeXTSTEP will add glamour to the '486 market, and make it appealing to other markets."

Draw

[CONTINUED FROM PAGE 1]

market Draw since receiving a round of venture capital from Sequoia Partners (see "Appsoft ramping up after venture capital infusion").

Most importantly, early users have positive things to say about the product itself. "I appreciate its simplicity," said Jesse Taylor, a production manager at Paget Press and beta tester of Draw. "It

While several PC manufacturers – including Dell and Compaq – have publicly demonstrated systems running NeXTSTEP '486, none have announced any plans to license the software, and a NeXT spokeswoman said any licensing agreements won't be made public until later in the year. NeXT is currently demonstrating NeXTSTEP 2.x running on '486 systems but said the final release will be based on NeXTSTEP 3.0.

"I think NeXTSTEP is going to be very successful," said NeXT CEO Steve Jobs. "And we're getting help from a lot of companies, much more help than I ever thought would be offered. . . . The reason is these other companies want to ensure that there's a choice." ♦

does certain things very well with a limited number of tools."

The simplicity is a reflection of Appsoft's complete rewrite of Media Logic's user interface. Users had complained that the old interface was too convoluted and difficult to use.

"Draw is easier to use than Illustrator," said independent designer Michael Bodil. "It's perfect for corporate or in-house use." ♦

All's fair in love, war – and politics

Dirty tricks are nothing new in politics, but all those amateurs give spookcraft a bad name, reflected Sullivan during a visit to the Perot Committee Headquarters in a western state. The local petition-committee staff is using a NeXT machine to produce flyers and track volunteers and contacts. It seems that an undercover representative from the local Republican campaign office recently sat down at the NeXT and began browsing through the files. A Perot staffer quickly intercepted her and asked a few pointed questions before showing her the door. Is Donald Segretti back in business?

Far more professional were the U.S. and former Soviet agents who showed special interest in the recent Moscow visit by Talus Corporation President Steve Sarich. Maybe they misunderstood his comments about NeXT being a competitive weapon. In any event, Sarich returned from Russia with an RFP for an "enterprisewide imaging and workflow system" for Boris Yeltsin's office. Armed with this prospective high-profile sale, Sarich flew on to Redwood City, where he patched up past differences with NeXT in a meeting with Peter van Cuylenburg. Result: The former bad boy of the NeXT market has sewn up VAR rights for Lithuania, Russia, and Ukraine. Potentially more significant is the development shop Sarich is planning to set up with Russian programmers. The \$30 per month he will pay is ten times the average wage for a Russian worker.

Van Cuylenburg has made other waves in his first few weeks on the job. Among his first moves was to convert a NeXT conference room into an improvised "war room" to refine and sharpen NeXT marketing strategies. The custom-apps strategy is solidly in place, but company thinkers have been hunkered down figuring out how to enhance it with a broader message. Sullivan hears they are focusing on NeXT's advantages in integration and collaboration. Stay tuned.

What's faster than a speeding Turbo but slower than a RISC workstation? Nobody seems to know the name, but now that Motorola has begun sampling 40MHz '040s, power-hungry customers are queuing up for shipment this year.

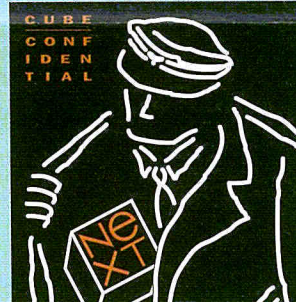
Graphics users are going to want that power for the spate of image-editing apps nearing the starting gate. Appsoft Image, now bearing little resemblance to its Pixelist ancestor, has been quietly shown. Lt. Sullivan's short peek at it revealed a fast and powerful application. Also, 3K Computerbild and another

European company both have serious competitors in fine shape. Meanwhile, Adobe continues to play its Photoshop card very close to the vest. Nevertheless, it looks like the NeXT publishing message is due for a strong boost by fall.

Adamation's Who's Calling is about to experience mitosis. The calendar module will be splitting from Who's Calling to become a separate application. Who's Calling 3.0 will be getting an abbreviated, simpler version. The new calendar app, as yet unnamed, will be reoutfitted as a groupware scheduling solution. Lt. Sullivan votes for What's Happening as the name for the new app.

Adobe is hard at work porting Display PostScript to X11R5/Motif to run on SPARC workstations. The first application following right on its release will be Adobe Illustrator. A PostScript previewer will be bundled with DPS, and the famous Adobe Type Library will eventually be made available as well.

Lt. Sullivan



Just when people started complaining that there would never be another update to NewsGazer, version 72.2 was placed on the Internet archives. What, you didn't see it? It was promptly removed a few days later upon discovery of a hidden TIFF image of a devil. Shades of Proctor and Gamble. NewsGazer 72.3 should have been posted by the time you read this.

Absoft Corporation, not to be confused with the recently refinanced Appsoft Corporation, has found a ready audience for its Fortran products in the NeXT market. Now Lt. Sullivan has learned that a full suite of C++ tools for NeXTSTEP is currently under consideration.

After placing a call to Boss Logic, Sullivan wondered what dirty trickster planted those rumors about the document-management company leaving the NeXT market. Now that Frame Technology has purchased its 18-to-20-percent stake in Boss Logic (Menlo Partners also has a matching share), Sullivan wondered about the impact on the document-management company. It's true that Motif and Windows ports of BDMS are underway. The good news for NeXT true believers is that Boss's products should have more impact in the NeXT shrink-wrapped app market with Frame's sales force behind them.

The Lt. Sullivan T-shirts were not touched by the looters thanks to Graciela's diligence and locked cabinet. If you want one honestly, the price is an inside tip. Call my voice-mail at 415-978-3374 or send me e-mail at sullivan@nextworld.com.

NEXTWORLD



NEWS
IN BRIEF

Bar-code capabilities come to the NeXT from both sides of the Atlantic. BarCode, from d'Art Software of Germany, generates PostScript or TIFF files that can be inserted into any document or label. BarCode currently reads and writes EAN, UPC, Code 39, and 2-by-5 standards (with the ability to expand on request), and is compatible with two bar-code scanners from Data-Logic. Hot Software of Cambridge, Massachusetts, is offering four products: Bar-A-Coda creates bar codes of any highlighted text via the Services menu; Wand-A-Bar translates data from any HP-compatible bar-code scanner into keyboard input and works with an external Bar-CodeBox, which provides a serial-port connection to the scanners; and BarCodeKit is an object library for adding bar-code capability to any application.

Pencom Software, already a NeXT-authorized systems integrator and developer, is doubling its staff of NeXT engineers to form a new training and consulting team. Pencom's training services will be offered in some cases along with NeXTedge. The company also plans to host NeXT training courses in various locations around the country. Pencom: 800/736-2664.

DisplayTalk from Adobe is due this month. The new PostScript debugger uses a graphical interface for point-by-point code tracing. A dictionary browser and status view let programmers inspect the value of variables at any step in the code. Interactive and preview windows are included for quick output checks, and a new macro feature allows easy insertion of commonly used code. A full on-line reference manual for PostScript Level 2, accessible from any edit window through [CONTINUED ON PAGE 10]

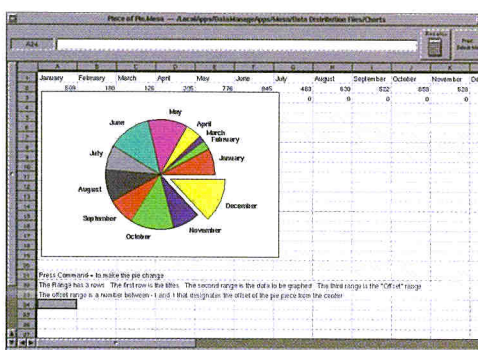
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Athena Design's Mesa, which entered beta testing in late June, features customizable tool bars, drag-and-drop colors and fonts, and full support for 1-2-3 files and macros. It allows ten different chart types.



Calc battle looming

by DAN LAVIN

Redwood City, CA – By anyone's calculation, the number of spreadsheets on the NeXT is about to multiply.

Appsoft purchased rights in late June to the PowerStep spreadsheet from Borland International. Athena Design's Mesa spreadsheet has gone into beta testing, and Informix Software has renewed marketing of Wingz. All three products are poised to do battle with Improv, the modeling-based spreadsheet from Lotus that has dominated the market since its introduction in 1990.

Archetype expands NeXT DTP strategy

by SIMSON L. GARFINKEL

Waltham, MA – Archetype, which entered the NeXT marketplace early this year when it announced plans for a NeXTSTEP "document engine," is readying two more NeXT products.

Both Archetype Page and InterSep are set to be released before the end of the year, according to Paul Trevithick, Archetype president.

Archetype Page is a full-featured page-layout and desktop-publishing program. Because it is based on Archetype's document engine, [SEE ARCHETYPE, PAGE 10]

PowerStep was developed by Ashton-Tate, which beta-tested the software but never brought it to market. Borland, which acquired Ashton-Tate late last year, sold rights to the product to Appsoft for undisclosed terms. Appsoft plans to make significant revisions to [SEE SPREADSHEETS, PAGE 9]

NeXT gets customer feedback

by ELIOT BERGSON

Redwood City, CA – NeXT got some pointed feedback from heavy-hitting customers at a meeting here on June 9 and will probably get even more in the near future, as two new customer groups take shape.

The Customer Advisory Board, which met behind closed doors, brought together executives and system administrators from Swiss Bank Corporation/O'Connor Services; Union Bank of Switzerland; Phibro Energy; Williams Telecommunications; Preferred Health Care; the advertising firm of Bozell, Jacobs, Kenyon, and Eckhardt; and high-ranking officials from unnamed government sites. A representative from J.P. Morgan also reportedly attended (see "Beans spilled in help-wanted ad," page 5).

Attendees were "adamant" that NeXT would not get "enterprisewide penetration" without ports of mainstream applications such as Microsoft Word and Excel, according to sources. The importance of software was underscored when NeXT CEO Steve Jobs asked attendees to rank

Data General turns to NeXT

by SIMSON L. GARFINKEL

New York – Data General Corporation will begin selling NeXTstations as low-cost client workstations for its RISC-based Avion servers, according to sources.

The package deal will offer Avion servers equipped with NeXT's NetInfo network-management system. NeXT's 68000 Objective-C compiler will also be ported to the Avion computer as a cross compiler, dramatically speeding the development environment for NeXTSTEP programmers using 3.0. NeXT's DBKit will be provided with special adapters for communicating with Oracle and Sybase

database servers running on Avion servers.

The deal with NeXT could give corporate purchasers a reason to buy equipment from Data General – by all accounts an old-time computer company with fading prospects. But Data General would need to license NeXTSTEP for the Avion machines to reap the maximum benefit. Sources said, though, no licensing agreement is imminent.

"If this is part of a new vision [at Data General] that objects are the future, then I would encourage people to take another look at [the company]," said Adrian Bowles, director of advanced software development at New Science Associates, a research firm.

If NeXTSTEP is ported, it would mark the second time NeXT's [SEE DATA GENERAL, PAGE 10]

Race is on to exploit 3-D

by DAN LAVIN

A raft of third parties are developing products based on the extensive 3-D capabilities in NeXTSTEP 3.0.

Stone Design and nPOINT have both gone public with their plans, and as many as four other companies, including European developers, are quietly in development.

Initial reports place all the products in the category of enhancers. Enhancers create special effects, such as flying logos, textured surfaces, and realisti-



Stone Design's 3DMan renders 3-D images with a variety of textures and shadings.

cally lighted reflective objects for desktop publishers and graphic designers. They provide a front end to RenderMan, an engine for creating images in three dimensions in the same manner that TouchType and Create provide a front end to PostScript.

The slow [SEE 3-D, PAGE 10]



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NeXT pitches support for l

by STUART SILVERSTON

Washington, DC — With a recent technology seminar for government executives as the backdrop, NeXT made a strong pitch to the federal market by announcing support for the POSIX and GOSIP interoperability standards for NeXTSTEP 3.0. NeXT also announced support for the C2 government security specification.

Technology to make NeXTSTEP 3.0 compliant with these standards will be available in the fourth quarter.

POSIX (Portable Operating System Interface), based on UNIX, provides a common ground for software, so that any application developed under POSIX can run on any compliant platform, including UNIX, IBM PC, or Macintosh systems. GOSIP (Government Open Systems Interconnection Profile) is a cross-platform network protocol that provides interconnectivity between government installations.

While some federal agencies buy noncompliant hardware, many require support for POSIX and GOSIP. NeXT's support for the standards should help boost government sales, which accounted for about 20 percent of the company's North American revenues in the last fiscal year, according to NeXT CEO Steve Jobs.

Responding to questions about government uses of NeXT, Jobs commented that "intelligence gathering is apolitical. We're creating

Vertex does

by KRISTIN DYER

Pittsburgh — Vertex Librarian, a souped-up version of Digital Librarian, is expected to begin shipping from Vertex Software this month. Vertex Librarian is based on a set of C libraries developed for PC OEMs. The libraries have been ported to VMS, the operating system for DEC VAX machines, and Vertex is considering ports to Macintosh and other workstations.

The first NeXT product to use the C libraries in its code will be VISUS's PaperSight.

NeXT third-party vendors were impressed with the library set and suggested that Vertex could do a much better version of Digital Librarian. The new product collects data into information bases, similar to bookshelves in Digital Librarian, but accepts ar

NeXT pitches feds with support for POSIX, GOSIP

by STUART SILVERSTONE

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Responding to questions about government uses of NeXT, Jobs commented that "intelligence gathering is apolitical. We're creating

information tools."

The technology seminars attracted about 350 federal agency executives, computer developers, and systems integrators.

"I'm grappling with where the technology fits into our organization," said Charles Fletcher, director of information systems at Airbus Industrie, the European airplane manufacturer. "At the right price, it could displace personal computers." ♦

Customers favor Auspex

by ELIOT BERGSON

Santa Clara, CA — Auspex Systems, a manufacturer of high-end UNIX file servers in Sun Microsystems environments, has made bold moves into the NeXT market.

Auspex customers already include Williams Telecommunications (WilTel) of The Woodlands, Texas, and the Dallas office of Bozell, Jacobs, Kenyon, and Eckhardt, an advertising firm. The six-foot-tall black boxes, called the Auspex NS 5500 and NS 3000, will soon be in place at Phibro Energy as part of its new state-of-the-art trading floor in Westport, Connecticut, and Swiss Bank Corporation/O'Connor (SBC/OC) Services in Chicago.

"We loved their technology. We've been looking at it for three years," said Rob Wilen, vice-president of SBC/OC's

Lotus, O'Connor team for Realtime

by DAN RUBY

New York — NeXT stepped up its assault on Wall Street with help from Lotus Development and O'Connor & Associates at the Securities Industry Association (SIA) meeting here last month.

The three companies combined forces to announce Lotus Realtime for NeXTSTEP, the most flexible version of a Lotus system for capturing live market information into trading applications. While Lotus is promoting its technology as a standard for

all UNIX workstations, only the NeXTSTEP version can be easily integrated into custom applications.

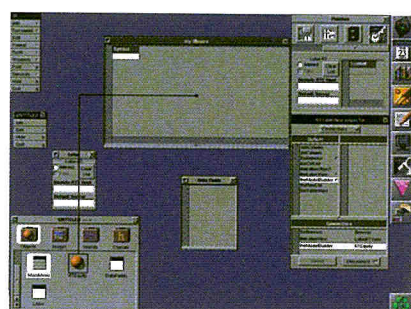
O'Connor, a Chicago-based options trading firm that is one of NeXT's biggest customers, announced that it had formed a software development spinoff, Black Diamond Technologies, to market trading software for NeXTSTEP. It has the exclusive license to market Lotus Realtime for NeXT for two years.

"This announcement represents the marriage of two great technologies. We want to ensure that Realtime and NeXTSTEP are accepted as standards and benefit the industry as a whole," said Craig Heimark, director of technology and general partner of O'Connor & Associates.

NeXT's progress on Wall Street was reflected in its broad presence at SIA. A year ago, only one NeXT system was exhibited at the show. This year, NeXT computers populated at least a dozen booths besides NeXT's own. Steve Jobs also delivered the conference keynote.

While previous trading systems have been based on proprietary technology for receiving real-time data, which locked users into a single vendor's trading solution, Lotus technology provides a standard means for accessing live market data.

"We're bringing the concept of open systems to this market



Realtime Engine interfaces to AppKit Objects for customized trading applications.

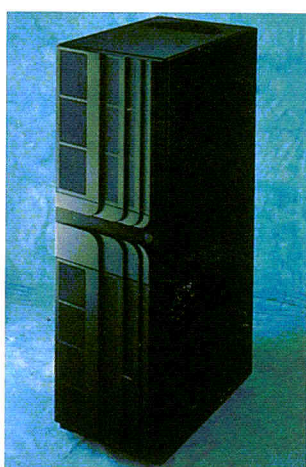
for the first time," said Frank Ingari, Lotus's vice-president of marketing.

At the heart of the system is the Realtime Engine, which accepts live data from feed servers, translates the data from native formats to the Realtime format, and delivers it through an application program interface (API) to a front-end application.

On other platforms, the front end is Lotus 1-2-3. On NeXT, Realtime is tightly integrated with Lotus Improv, but the API can interface with any NeXTSTEP application. Black Diamond is developing a link to Informix's Wingz, and Lotus said it will develop a set of Realtime objects that work with NeXT's AppKit.

Lotus Realtime for NeXTSTEP will be available from Black Diamond in the third quarter for \$1150 per user, or bundled with Improv for \$1660. A developer tool kit can be licensed for an annual site licence of \$5000.

Black Diamond can be reached at 312/554-5455. ♦



High-performance Auspex servers are gaining ground at major NeXT sites.

office automation group.

That technology includes disk striping, which reads and writes data across several drives simultaneously. Data is mirrored in two locations on the server for security. If a drive goes down, Auspex's "hot-pluggable" technology lets a technician pull that drive while the server is still running. The new drive is automatically formatted, rebuilt, and returned as the data host.

The server is also fast, using "functional multiprocessing," according to Mike Bennett, marketing communications manager for Auspex. The server's I/O functions are regulated by four processors, each with its own chip, memory, and portion of the operating software.

The company continues to make sales, even though its servers do not yet support NetInfo, the heart of NeXT's network environment. A work-around developed at WilTel is available to NeXT users while Auspex is looking at providing a NetInfo port for customers, Bennett said. ♦

Vertex does DL one better

by KRISTIN DYER

Pittsburgh — Vertex Librarian, a souped-up version of Digital Librarian, is expected to begin shipping from Vertex Software this month. Vertex Librarian is based on a set of C libraries developed for PC OEMs. The libraries have been ported to VMS, the operating system for DEC VAX machines, and Vertex is considering ports to Macintosh and other workstations.

The first NeXT product to use the C libraries in its code will be VISUS's PaperSight.

NeXT third-party vendors were impressed with the library set and suggested that Vertex could do a much better version of Digital Librarian. The new product collects data into information bases, similar to bookshelves in Digital Librarian, but accepts any

kind of file, sound, or graphic, "including applications, though I can't imagine how that would work," said Vertex President Mike Chambers. Unlike Digital Librarian, additions to the information bases are indexed immediately for quick retrieval.

Query capabilities represent the greatest gain from the standard Digital Librarian format. More than 80 percent of the data on five application disks belongs to an English thesaurus, allowing conceptual searches and document classification. Users can import other thesauri or create their own, to be linked together for even more-complex searches. Hyper-text links can be added to documents within an information base or through the Services menu.

Vertex Software can be reached at 412/931-7600. ♦

Corks pop for long-awaited apps

by CONNIE GUGLIELMO



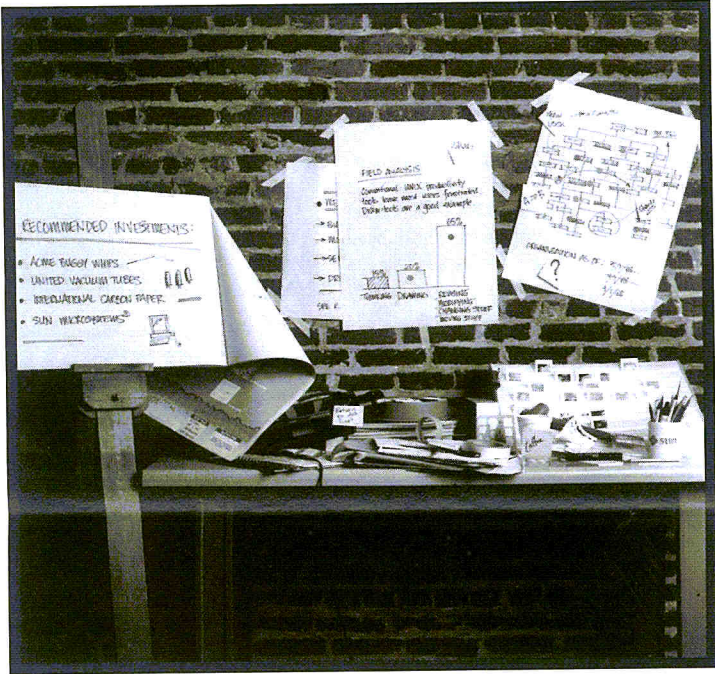
Two conspicuous holes in the NeXT application library were filled last month as developers shipped long-awaited software products.

• PasteUp, RightBrain Software's long-awaited page-layout program, began shipping last month. The \$795 program combines the easy-to-use pasteboard approach of PageMaker with the typographical control of QuarkXPress. Glenn Reid, PasteUp's PostScript-savvy author, has provided unlimited levels of undo and redo, drag-and-drop image

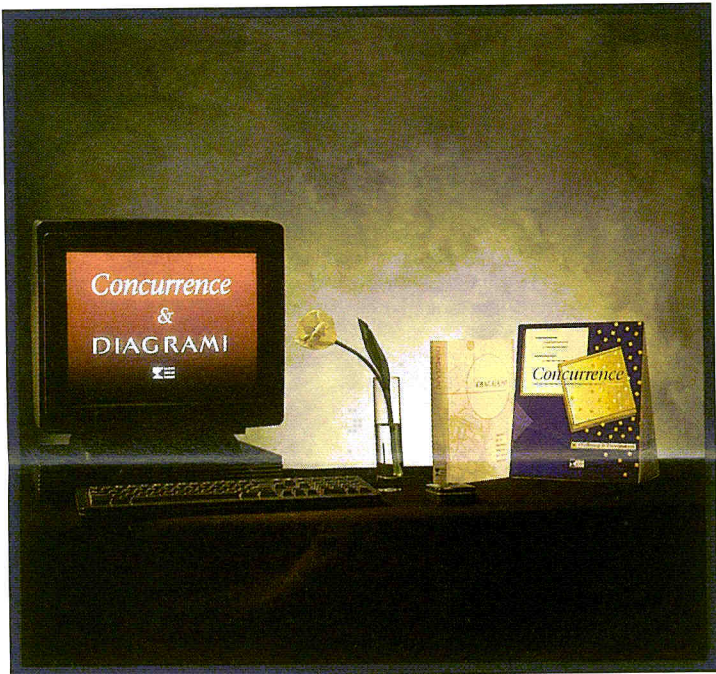
capabilities, and interapplication import and export of files. RightBrain Software: 415/326-2974.

• Software Ventures' oft-delayed MicroPhone II for NeXT, advanced telecommunications software, finally shipped in July. The \$395 program offers a front-end design tool for designing your own graphical front end to remote services or remote computers. The program also includes a built-in script editor, with 300 prewritten commands and functions, so that users unfamiliar with scripting can build scripts free of syntax errors.

NeXT users who bought the prerelease version of MicroPhone II at NeXTWORLD Expo in January can get the final release free. Software Ventures: 510/644-3232. ♦



Workstation productivity circa 1980



Workstation productivity circa 1992

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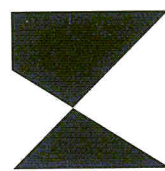
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Year of rebuild NeXT's new ch

by DAN LAVIN

Redwood City, CA — NeXT has taken another step in the rebuilding of its European organization with the hiring last month of Bernhard Woebker as its vice-president for Europe.

The entire NeXT European organization will report to Woebker, with Paul Vais, former acting vice-president, returning to his permanent position as technical director for Europe. Woebker will also replace Vais as Europe's representative to NeXT's policy-setting team.

The German-born Woebker spent 16 years at Siemens-Nixdorf, in its direct-sales division, before going to Pyramid Technology as its senior vice-president for Europe, the Middle East, and Africa. Woebker will be stationed in NeXT's Munich office, along with Herbert Schwab, recently appointed head of finance and administration for Europe, while Vais and Randall Sosnick, who is responsible for legal and human relations for NeXT Europe, will be stationed in Paris.

NeXT President Peter van Cuylenburg said that Woebker was selected because of his experience with the leveraged direct-selling model that NeXT

Beans spilled in

Wall Street giant J.P. Morgan and Company won't publicly confirm reports that it has concluded a major purchase of NeXT computers, but don't tell that to its personnel department. The international finance firm ran this recruitment advertisement for NeXT programmers in the June 28 edition of the New York Times. During a press conference at the Securities Industry Association meeting in New York last month, NeXT CEO Steve Jobs showed a clipping of the ad as evidence of momentum behind the NeXT platform. According to sources, Morgan has purchased about 100 NeXT systems in a pilot program that could lead to more sales.

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Year of rebuilding ahead for NeXT's new chief of Europe

by DAN LAVIN

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NeXT President Peter van Cuylenburg said that Woebker was selected because of his experience with the leveraged direct-selling model that NeXT

has instituted worldwide.

NeXT Europe previously worked through a network of many small dealers, so Woebker will start from scratch in building a new sales organization. That rebuilding process, estimated Woebker, will take from nine to sixteen months.

The plan calls for three or four sales teams in the major European countries, each targeting a small number of large companies. Smaller companies will be served by large, value-added dealers working in tandem with the direct sales force.

Woebker said he feels confident that he can achieve major gains in Europe. "I had four times the sales of NeXT Europe while I was at Pyramid, with the same staff. Staffing is not the issue. Marketing is not even the issue. Proper sales approach is the issue," he said.

When deciding to come to NeXT Europe, Woebker said he had two concerns. Questions about the company's financial security were answered by the new financing from Canon, while van Cuylenburg, himself a European, gave Woebker solid commitments that Europe was, and would remain, a priority for NeXT worldwide. ♦

New credit line: \$65M

by DAN LAVIN

Redwood City, CA – The money is rolling in at NeXT, but it has nothing to do with product sales.

NeXT identified the sources for a \$65 million credit line secured in June, saying that Canon extended \$55 million and founder Steve Jobs contributed \$10 million. NeXT will draw from both sources in proportions yet to be determined.

NeXT President Peter van Cuylenburg also confirmed that Canon was the source for a previously unannounced \$30 million round of financing last December and that Canon will receive nonexclusive distribution rights for NeXT computers in Europe.

Van Cuylenburg said the new financing is the last NeXT will require before its initial public offering (IPO), planned for 1993. He added that NeXT plans to draw on only half the \$65 million, to fund expansion. "This is a cash-flow issue, not a profitability issue," said van Cuylenburg.

Any monies drawn from either Canon or Jobs against the new credit line will be converted to stock at the time of the IPO, based on the offering price of NeXT stock.

NeXT's disclosed cash sources

Year	Source	Amount (millions)
1985	Steve Jobs	\$7
1987	Jobs, Ross Perot, Stanford, Carnegie Mellon	\$26.3
1988	IBM (licencing fee, estimated)	\$10-\$50
1989	Canon	\$100
1991	Canon	\$30
1992	Canon, Steve Jobs (credit line)	\$65

Note: Other funding is known to have occurred, including from Steve Jobs, but timing and amounts are unknown.

Van Cuylenburg also confirmed that total cash infusions to NeXT prior to the June line, including IBM's software license fee and other undisclosed amounts, have been in excess of \$175 million.

With this \$55 million offering, Canon has now provided at least \$185 million to NeXT. The first \$100 million bought Canon 16.7 percent of NeXT in 1989, while the \$30 million last December also bought a few more points of ownership and unspecified rights to more stock later.

Canon's position is further

strengthened by the acquisition of the nonexclusive distribution rights in Europe. The company already enjoys exclusive distribution rights for NeXT computers in Japan and nonexclusive distribution rights in other parts of Asia and the Pacific.

According to van Cuylenburg, NeXT and Canon will also form a worldwide marketing alliance based on the NeXT Publishing Environment (NPE) that will include promotion of Canon's publishing products, such as the Canon Color Laser Copier. ♦

NeXT gains in workstation market share

by CONNIE GUGLIELMO

Mountain View, CA – NeXT moved up the charts and finished among the top five workstation suppliers worldwide in 1991, showing a more than 100-percent growth in shipments over the previous year, according to market research firm International Data Corporation (IDC).

With an estimated 25,600 workstations sold in 1991, NeXT more than doubled its worldwide shipments of 11,000 units in 1990, IDC said. NeXT's shipments represented the largest growth of the workstation suppliers.

Although it placed fifth with a market share of 5.4 percent, NeXT's shipments were still far below Sun Microsystems, which owns 39.6 percent of the market.

During a press conference in July, Steve Jobs said the numbers showed that NeXT had surpassed IBM in workstation shipments.

But in the overall ranking, which included both client and server uses of the machines,

NeXT finished slightly behind IBM. IBM shipped 26,900 units in 1991, giving it a 5.6 percent share. NeXT did manage to place fourth, one spot ahead of IBM, in terms of the number of workstations being used as desktop machines rather than servers. ♦

IDC charts NeXT growth

Company	Workstations shipped	
	1991	1990
Sun Microsystems	189,200	146,050
Hewlett-Packard	80,125	75,550
Digital	65,900	64,000
IBM	26,900	16,405
NeXT	25,600	11,000

Source: International Data Corporation, 1992

NeXT finally joins OMG consortium

by CONNIE GUGLIELMO

San Francisco – Recognizing that it is part of a larger object world, NeXT last month officially joined the Object Management Group (OMG) during the Object World Conference held here.

Established in 1989, OMG is a consortium dedicated to creating standards for portability and interoperability of code among object-oriented environments.

NeXT was one of the only major system vendors not to have joined the 200-member group.

The company said it hopes to contribute technology to help OMG define its Object Services standard. NeXT also has plans to specify the language bindings from OMG's Interface Definition Language to Objective-C, which would in effect make NeXTSTEP objects conform to OMG's object model. ♦

Beans spilled in help-wanted ad

Wall Street giant J.P. Morgan and Company won't publicly confirm reports that it has concluded a major purchase of NeXT computers, but don't tell that to its personnel department. The international finance firm ran this recruitment advertisement for NeXT programmers in the June 28 edition of the New York Times. During a press conference at the Securities Industry Association meeting in New York last month, NeXT CEO Steve Jobs showed a clipping of the ad as evidence of momentum behind the NeXT platform. According to sources, Morgan has purchased about 100 NeXT systems in a pilot program that could lead to more sales.

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Cornell back NeXT, cites la

by DAN LAVIN

Ithaca, NY — Cornell University, one of NeXT's earliest higher-education clients, has sold the machines out of its NeXT lab to make room for other platforms and announced that it will no longer resell or service NeXTs through its campus store. Both NeXT and Cornell characterize the moves as a mutual decision that resulted from a lack of resources on both sides.

The announcement came as surprise because Cornell was a core school in NeXT's higher-education program. Stuart Lynn Cornell's vice-president for information technologies, has served on NeXT's advisory board since 1988. He resigned part of these developments.

According to both parties, NeXT's leveraged-sales model could not provide enough resources to maintain a sales momentum at Cornell. With tightening academic budgets, some universities have increasingly relied on vendors to develop computing solutions directly with individual faculty and staff members by providing free seed machines and financing the development of software solutions. "[NeXT's] particular corporate strategy did not fit a Cornell profile," said Lynn.

Noting that computers are upgraded every few years at

School district



by ELIOT BERGSON

NeXT recently made sales to one of the fastest-growing K-12 school districts in the

United States, another financial trading firm, and the chip manufacturer for its own machines.

Ninety NeXTstations joined 20 already in classrooms and offices of the Valverde Unified School District, located in the desert of California's Riverside County. Administrators and teachers will be using a combination of Sybase, Virginia Tech's multimedia library system (called VTLS), and NeXTmail for grading, attendance, and inventory tasks, while students will use VTLS and have Internet access in the classroom.

Cornell backs away from NeXT, cites lack of resources

by DAN LAVIN

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Noting that computers are upgraded every few years at

Cornell, Lynn stressed that the door remains open to NeXT and that the situation could be only temporary.

NeXT has recently developed a distributed approach to selling in the higher-education market, using a direct-sales force to empower strong on-campus advocates for the platform. Sales to schools in the first half of 1992 were "very strong," according to Bob Longo, NeXT's director of educational sales.

By allowing its sales force to recruit campus advocates rather than try to make direct sales to schools such as Cornell, NeXT has become active on far more campuses. Three hundred schools now buy machines directly from NeXT and act as "hub" resellers to an additional 200 schools. Longo cited recent big sales to ITESM in Monterrey, Mexico, and York University in Toronto, as well as steadily growing sales at schools such as Michigan State and Stanford University, as a validation of NeXT's strategy.

Cornell faculty and students can still buy machines and obtain service through a "spoke" relationship with NeXT reseller Rensselaer Polytechnic University in Troy, New York. Service and support will also be available directly through NeXTedge. "We don't see this as a parting," said Longo.

School district tops list of buyers



by ELIOT BERGSON

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The district, which is building on average one new school a year, plans to place another 150 machines on desktops in the next 12 months, all connected through 10Base-T in every classroom.

In the growing financial arena, Chicago Research and Trading Group Limited (CRT) began a pilot program with 30 NeXTstations. Developers are building custom applications and workers are using Lighthouse Design's Diagram. CRT has also bought licenses for WordPerfect, Lotus Improv, and Lighthouse's Concurrence.

Motorola Semiconductor Products Sector purchased 70 machines for its information services groups. The semiconductor manufacturer is automating its office, where workers are using FrameMaker, Wingz, Improv, WriteNow, 3270-Vision for host connectivity, and Appsoft Draw.

Faster bit-mapping added to 3.0



by SIMSON L. GARFINKEL

Users will be getting both more and less than they expected when NeXTSTEP 3.0 ships this month.

Faster displays

NeXTSTEP 3.0 should boast dramatically improved performance for bit-map-intensive applications like X servers, photo-retouching programs, and SoftPC, thanks to the efforts of Terrance Donahue, a programmer with NeXT's window system group.

The improvements come after a recent NeXT Customer Advisory Board meeting identified "faster X performance" as a pressing need, said Chris MacAskill, NeXT's director of developer relations.

NeXT previously hadn't seen ways to increase the speed of NXImageBitmap, the NeXTSTEP Application Kit object that imple-

ments screen-image display.

"It turned out that most of our assumptions were false once [Donahue] got to go around in there and dig," said MacAskill, adding that Donahue's speedups apply only to NeXTstation Color machines. "We think that a factor of 2 improvement, and possibly a factor of 3," is likely in most cases.

Although the new features were not part of NeXTSTEP 3.0's first or second prereleases, developers of bit-map-intensive applications were given a special release that included a new Application Kit and WindowServer program.

GNU compiler source nixed

NeXT will not be providing the source code to its GNU compilers on the NeXTSTEP 3.0 CD-ROM, as many enthusiasts had hoped, but will instead sell the software as a separate product and make the source code publicly available over the Internet, said Kevin Wells, NeXT's manager of software product marketing.

"It may sound silly, given that we have plenty of space and it basically doesn't cost us anything to do it, but . . . putting GNU source on the Release 3 CD-ROM really isn't consistent with what we want the product to be," said Wells.

NeXT's C compiler and debugger are based on GNU software, written by the Free Software Foundation. Under terms of the license, NeXT must provide the source code to customers who request it and can charge only a nominal fee for duplicating the floppy disks.

Only a small – but very vocal – minority of NeXT's customers want the source code, said Wells. Some developers, though, are disappointed. "There are legitimate reasons to have access to compiler source code," said Robert E. Brown, a senior software developer at Quorum Software Systems, which is developing a Mac emulator. Brown used a previous version of the compiler's source code to make it compatible with Think C, a popular Mac compiler.

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NeXTWorld Expo 1992

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– John Coppinger,
Kentucky NeXT Users Group

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NeXTwatchTM Newsletter

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NeXT-to-Windows porting eased

by SIMSON L. GARFINKEL

Newark, CA – NeXT developers can now use Stepstone Corporation's Objective-C compiler with Borland International's Turbo C to port their applications from NeXTSTEP to DOS and Windows, thanks to a new set of Objective-C extensions developed by Berkeley Productivity Group.

Until now, Objective-C on DOS could be done only with the Microsoft C compiler. But the

Turbo-C compiler is superior, said Berkeley President Christopher Lozinski. "Microsoft doesn't support memory management very well, and Windows has fragmented memory."

The extensions will cost \$495, including the Stepstone compiler.

Any NeXTSTEP program ported to a PC would require a new user interface, said Lozinski, since his company has not ported the NeXTSTEP user interface objects. Lozinski is working on a solution to allow developers to

build interfaces with Smalltalk.

Lozinski is also working on a version of Suite for the Borland Objective-C extensions, which will allow Objective-C programs running on a PC to transparently send messages to Objective-C server programs running on NeXT computers.

Suite, developed by Suite Software of San Diego, is functionally similar to NeXTSTEP 3.0's Distributed Object system.

Berkely Productivity Group can be reached at 510/795-6086. ♦

Imagine to deliver midrange multimedia presentation app

by CONNIE GUGLIELMO

Ann Arbor, MI – As part of its strategy to offer a suite of multimedia products for NeXT users, Imagine Multimedia is developing a new multimedia program for creating interactive, hypertext-based presentations.

Called ImaginePresents, the \$895 program is due in the fourth quarter. It is positioned to fall

between Imagine's \$595 MediaStation, an easy-to-use multimedia editing and storage program, and ImagineInterActive, a \$995 graphical scripting environment that will be released in early 1993.

"We started doing the design for ImagineInterActive, and people told us we should spin off a presentation app," said Imagine CEO Ken Slayton, adding that the company will offer an "attractive" upgrade path for ImaginePresents owners who trade up to ImagineInterActive.

ImaginePresents has a three-part interface that, like ImagineInterActive, includes a Tool panel; a Simulator module that builds presentation front ends and tests the finished presentation; and a Navigator module, which provides a graphical overview of presentations through a hierarchical browser.

Users will be able to output presentations to videotape, play back both linear and nonlinear presentations, and make anything on a presentation screen a hot link to another screen.

Imagine also announced MediaBrowser, a utility that lets users play MediaStation archives. MediaBrowser will be available in August for a nominal fee.

Imagine Multimedia can be reached at 313/930-7777 or e-mail: ken@imagine.com. ♦

XEvents brings heterogeneous

by LEE SHERMAN

Albert Park, Australia – Interapplication communication (IAC) may one day span operating systems, if the dream of a developer here becomes reality.

Codex Software Development has developed XEvents, a tool kit designed to create IAC-aware applications that work across network

XEvents is modeled on Apple Computer's interapplication messaging language, called Apple Events. But instead of being limited to a single platform, it supports processes running on MacSuns, and NeXTs. Microsoft Windows support will be added in a future release.

Unlike Apple, Codex has kept its system open, waiting for developers to define their events. It plans to publish an event registry based on whatever consensus emerges.

"Because it's portable code and because it runs on many platforms, we couldn't assume the existence of features such as the classic Macintosh event loop or the sophisticated object-oriented

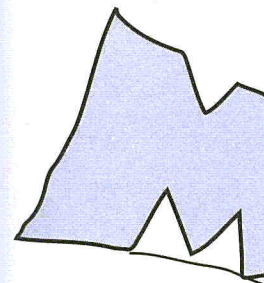
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When you need information at your fingertips fast, you need the CY-2000 magneto-optical disk drive from Contemporary Cybernetics Group. It's like having unlimited storage space. With the ability to access files in seconds. What's more, it's fully plug and play compatible with your NeXT™ computer system.

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The CY-2000 is part of our family of data storage products that includes QIC tape streamers, magneto-optical disk drives, and 8mm helical scan tape subsystems and libraries.

If file access is trying your patience, don't wait another minute. For complete information on the CY-2000, call today at (804) 873-9000.

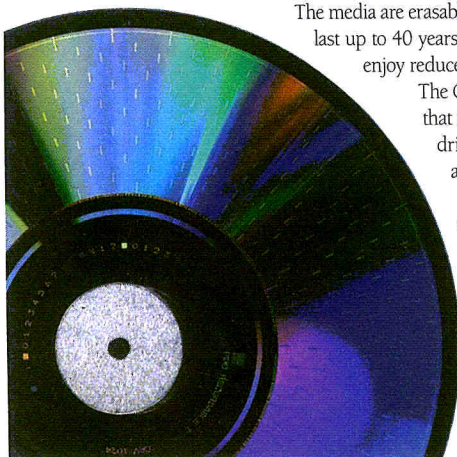
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Arrix	IBM RISC/6000	Pertec
AT&T	IBM RT	Plexus
Basic-4	IBM S/38	Prime
Concurrent	ICL	Pyramid
Convergent	Macintosh	Sequent
DataGeneral	McDonnell	Silicon
DEC 3100	Douglas	Graphics
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DEC HSC	NeXT	Sun
DEC Q-Bus	Novell	Unisys
DEC TU/TA81	OS/2	Wang
DEC Unibus	PS/2	and more.

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CYBERNETICS
Group



midrange
tation app

ween Imagine's \$595 Media-
tion, an easy-to-use multimedia
ting and storage program, and
agineInterActive, a \$995
phical scripting environment
t will be released in early 1993.
"We started doing the design
ImagineInterActive, and peo-
told us we should spin off a
resentation app," said Imagine
O Ken Slayton, adding that
company will offer an "attrac-
e" upgrade path for Imagine-
sents owners who trade up to
agineInterActive.
ImaginePresents has a three-
rt interface that, like ImagineIn-
Active, includes a Tool panel; a
nulator module that builds pre-
ntation front ends and tests the
ished presentation; and a Navi-
tor module, which provides a
aphical overview of presenta-
ons through a hierarchical
ower.
Users will be able to output
resentations to videotape, play
ck both linear and nonlinear
resentations, and make anything
a presentation screen a hot
lk to another screen.
Imagine also announced
ediaBrowser, a utility that lets
sers play MediaStation archives.
ediaBrowser will be available
August for a nominal fee.
Imagine Multimedia can be
ached at 313/930-7777 or
-mail: ken@imagine.com. ♦

DB Inspector comes
from Black Market

y KRISTIN DYER
Brooklyn, NY - Black Market
Technologies has begun shipping
DB Inspector, a multiple database
rowser that allows users to log
n to and manipulate more than
one database at a time.
According to Black Market
resident Tim Reed, who admin-
sters Sybase data systems for
NeXT-based Wall Street trading
firms, DB Inspector fills an
administrative niche in the world
of NeXTSTEP products, which
are primarily geared toward
developers and end users.
With DB Inspector, data from
Sybase can be viewed in a Rich
Text window, edited in a text
window, exported to Improv, or
imported into existing tables
from any NeXT spreadsheet.
Black Market Technologies
can be reached at 718/522-5090,
or e-mail: info@bmt.gun.com. ♦

XEvents brings IAC to
heterogeneous networks

by LEE SHERMAN

Albert Park, Australia - Interap-
plication communication (IAC)
may one day span operating sys-
tems, if the dream of a developer
here becomes reality.
Codex Software Development
has developed XEvents, a tool kit
designed to create IAC-aware appli-
cations that work across networks.
XEvents is modeled on Apple
Computer's interapplication mes-
saging language, called Apple
Events. But instead of being limit-
ed to a single platform, it sup-
ports processes running on Macs,
Suns, and NeXTs. Microsoft
Windows support will be added
in a future release.
Unlike Apple, Codex has kept
its system open, waiting for devel-
opers to define their events. It plans
to publish an event registry based
on whatever consensus emerges.
"Because it's portable code
and because it runs on many plat-
forms, we couldn't assume the
existence of features such as the
classic Macintosh event loop or
the sophisticated object-oriented

dispatch under NeXTSTEP," said
J. Matthew Pryor of Codex.
XEvents was developed for
customers who were trying to
bridge PCs and workstations.
"Our agenda has always been
to develop software that encom-
passed multiple computer plat-
forms," said Pryor. "There's been
a lot of talk about open systems,
but that talk has only been among
UNIX vendors."
If Codex is successful in licens-
ing XEvents to developers, the
functionality in applications
once exclusive to the Mac could
become available to applications
on DOS-based computers and
UNIX machines such as the NeXT.
For example, Apple's AppleScript
or UserLand's Frontier scripting
languages could find themselves
used in these environments.
"You could use Frontier to
script a Windows program - an
ideal use of XEvents," said Pryor.
Codex has already developed
a UNIX program that fires events
at Apple's Finder.
Codex can be reached at
613/696-2490. ♦

Spreadsheets [FROM PAGE 1]
the product, tentatively renamed
Appsoft Solution, and release it
in the fourth quarter for \$495.
Meanwhile, Athena Design
put Mesa into beta testing on July
4 and is hoping for a third-quarter
release of the \$499 product. Dave
Pollak, Athena's president, had
once talked with Appsoft about
publishing Mesa. Instead, Pollak
decided to publish the spread-
sheet through his own company,
and Appsoft decided to go with
PowerStep.
If preliminary statements by
Pollak and Appsoft President
Randy Adams are any indica-
tion, there promises to be a live-
ly but friendly competition

between the two companies.
"We think we're going to
take the most market share
because we're the best engi-
neered and putting the most
behind it," said Adams. "Solu-
tion represents nearly five per-
son-years of effort." He stressed
the size of Appsoft's sales and
support organization, its ven-
ture-capital funding, and line
of eight products.
Pollak, who predicts that
Mesa will beat Solution to market
by six months, contrasts Appsoft's
purchase of a complex, older piece
of code written by others with his
own compact, fast, highly object-
oriented solution.
"We find that customers

have as much confidence in
Athena Design as in Appsoft,"
said Pollak, touting Athena's
free permanent unlimited techni-
cal support and floating license
manager. Appsoft had a yearly
service contract policy that is
being modified to one year of
free support.
Both Appsoft and Athena
plan to have standard spread-
sheets in the mold of Microsoft
Excel and Lotus 1-2-3. Both
will import existing 1-2-3
spreadsheets and run 1-2-3
macros - unlike Lotus Improv.
Wingz is also a standard
spreadsheet, but the effect of
Informix's new marketing push
is yet to be seen. ♦

Advisory [FROM PAGE 1]
had been charged different prices
for some third-party software. And
representatives from the financial
community were unhappy with
support from "some of the third-
party consultants," one source said.
NeXT is reportedly looking at
changes in its own large-site sup-
port structure as a result of the
complaints.
The Customer Advisory
Board meeting grew out of a din-
ner attended by commercial users
during NeXTWORLD Expo in

January, but was probably
pushed for by "[NeXT President
Peter] van Cuylenburg," said one
source. "One of his pet babies is
to get customers in."
Customers will certainly have
more to say to NeXT in the future.
ProNeXT, a "professional network
of corporate users" is hoping to
have an organizational meeting in
the near future to bring together
system administrators at large sites
to discuss technical concerns, said
Alex Henry, director of informa-
tion systems at the William Morris

Agency in Los Angeles.
A group of users interested in
publishing on the NeXT is also
reportedly forming. Bruce Web-
ster, of Pages Software in San
Diego, said that he believes the
group will tell developers what
users want to see rather than
wait for what is offered on the
market. This will allow develop-
ers to better coordinate their pro-
gramming efforts and "remove
the perception of some develop-
ers having suspicious agendas,"
Webster said. ♦

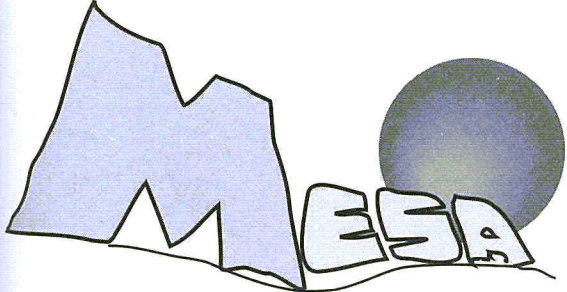
The NeXT™ Plateau
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Imports Lotus™ 1-2-3™ spreadsheets and
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Use your Lotus worksheets

Blazing Recalculation Speed
*"Mesa is one of the fastest recalculating
spreadsheets I have ever used."*
- Bruce Henderson, Pages, Inc.

Object Oriented Real Time Engine
"The API is really elegant."
- Paul Burford, NeXT Computer Inc.

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Vertex Librarian
the advanced Digital Librarian™

Vertex Software has just announced the release of version 1.0 of the *Vertex Librarian*.
The *Vertex Librarian*, as its name might suggest, has an interface immediately
recognizable to users of NeXTstep's Digital Librarian and includes all the functionality
you are used to. That's where the similarity ends. *Vertex Librarian* has extensive text
search and retrieval capabilities including: full text search using keywords, phrases,
numbers, dates, proximity and boolean logic as well as conceptual search using a
thesaurus or full semantic network. Utilize a thesaurus for your specific field of
interest for more thorough queries. Create and maintain semantic networks of subjects
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files to quickly find related information. Use the document analysis tools to
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B R I E F S
Continued

the Services menu, is the icing on the cake. DisplayTalk is bundled with Display PostScript SDK for \$500 from Adobe, 800/833-6687.

The Japanese version of NeXTSTEP 3.0 will ship in the fourth quarter as an upgrade for current Japanese-version owners for about \$600, according to sources. For users who preorder 3.0 by October 31, the price is about \$290. Users who have a yen to upgrade from their English version to NeXTSTEP Release 3J, however, must ante up about \$2600 – no matter when they buy it.

RollerMouse, a well-known trackball for PCs and Macs from CH Products, now works on the NeXT. The two-inch-wide black ball plugs into the mouse port on the keyboard and works immediately with the mouse settings in the Preferences panel. A bundled program provides tuning options. Buttons on each side of the \$179 trackball have user-configurable click and click-lock features. CH Products: 619/598-2524.

FileStart, a new file and application organizer, is shipping for \$49 from Aurora Software. FileStart lets you instantly access frequently used files, folders, and applications; group related files and folders into projects; and open multiple files with one double-click. Aurora Software: 608/231-3679.

ParePlace Systems, which is commercializing object-oriented technology developed at Xerox's Palo Alto Research Center, will release a port of its Object-works/Smalltalk application-development environment for NeXTSTEP computers this year.

NeXTWORLD Extra is a supplement of *NeXTWORLD* magazine. It is published monthly by Integrated Media, a subsidiary of IDG Communications, 501 Second St., San Francisco, CA 94107, and is distributed free to subscribers of *NeXTWORLD*. Lt. Sullivan's column and articles about unannounced NeXT products are reported and written by contributors without guidance from the *NeXTWORLD* staff.

Editor: Dan Ruby; Managing Editor: Connie Guglielmo; Associate Editor: Eliot Bergson; News Editor: Dan Lavin; Staff Writer: Simson L. Garfinkel; Layout Chief: Sue Troy

NPE controversy receding

Burlingame, CA – NeXT defused the controversy over its proposed NeXT Publishing Environment (NPE) at a meeting of developers here in June.

Some developers of shrink-wrapped graphics applications reacted negatively to NeXT's earlier proposal to adopt a "document engine," written by Archetype, as a standard for all NeXT

publishing software (see "DTP engine proposed," *NeXTWORLD Extra*, March 1992). The NPE concept was an attempt by NeXT to align its publishing direction with its focus on custom-application development.

Steve Jobs told developers that a universal API was not in NeXT's interests, according to attendees.

"NeXT is now pursuing a more general approach that encompasses both shrink-wrapped apps and objects," said Bruce Webster, of Pages Software in San Diego. "NPE still exists, but it now has a broader definition."

Webster said that a group of developers is working together to propose protocols that cover file formats and translation filters.

—by DAN RUBY

Archetype

[FROM PAGE 1]

Archetype Page will "be able to interoperate with any other application that is based on the engine," Trevithick said.

Trevithick plans to sell the engine for under \$200 and the combined package of engine and application for under \$1000. About 15 developers were scheduled to receive the beta version of the engine, which Trevithick said would ship mid-July.

Archetype is also porting its InterSep image database and printing system to NeXTSTEP and is teaming up with a major producer of typesetting equipment to offer a combined hardware and software package to Macin-

tosh and Novell network users.

InterSep is an image-management system designed to improve performance for microcomputer networks used primarily for desktop publishing. The system allows users to work with low-resolution versions of images on a Macintosh or PC. A high-resolution version of the image is then automatically inserted into PostScript when the image is printed.

Because the InterSep program resides on the print server itself, the program greatly reduces network traffic and speeds up the transfer and printing of electronic images.

The NeXT-based version of

InterSep will replace the Novell file and printer server with a NeXTstation and a high-resolution output device. NeXTSTEP's Display PostScript serves as the RIP engine.

Archetype can be reached at 617/890-7544. ♦

3-D

[FROM PAGE 1]

Photorealistic RenderMan, the real-time Quick RenderMan, and network tools to allow distributed rendering are bundled with NeXTSTEP 3.0, along with NeXT's 3DKit, which provides programmatic access to the tools.

Stone, publisher of Create and DataPhile, has a product code-

Data General

[FROM PAGE 1]

operating system was licensed to another hardware manufacturer. In 1988, NeXT licensed NeXTSTEP 1.0 to IBM for use on the RS/6000 workstation. Although the deal bought NeXT credibility and much-needed cash, disagreements between the two companies and changes within IBM prevented IBM from bringing NeXTSTEP to market.

But the Avion port would be less complex than the port to IBM's RS/6000, a fact that delayed IBM's implementation so long it wasn't ready with NeXTSTEP until version 2.0 was released. NeXT has already done much of the work for a port to the Motorola 88000 architecture as part of its work on a future RISC workstation. ♦

named 3DMan it plans to ship to coincide with the release of 3.0 at the end of August. The introductory price is expected to be \$99.

And nPOINT, a start-up, plans to ship Blast3D in the fourth quarter. The company, specially formed to exploit 3-D on the NeXT, has been working on the product for a year. ♦

Coast swing turns up kinder, gentler NeXT

In his early years as an agency analyst, Sullivan used to watch Apple Computer go through constant reorganizations. He would marvel as the ship of state somehow kept afloat despite belly roll after Poseidon Adventure belly roll. He drew charts on graph paper to plot where former Apple employees would land next. Old Apple employees never die, they just pop up again in some other orchard.

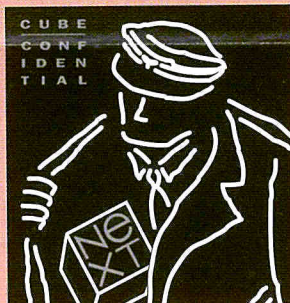
At NeXT, the overall organization seemed more stable. With a recent series of sudden structural shifts, the Lieutenant decided to visit headquarters to find out if NeXT has caught reorg disease. The prevailing theory among Sullivan confidants is that most of the recent changes are ripple effects from the arrival of Peter van Cuylenburg. PVC is said to be shining his spotlight on various areas of operations, so don't be surprised to see more changes in coming months as the new president prepares the bottom line for next year's IPO.

While on the scene, Sullivan stopped by the gathering of NeXT publishing developers, during which NeXT managed to allay fears that it was railroading developers to adopt the Archetype document engine. Still, he got an earful about NeXT's past transgressions. It seems that NeXT first encouraged a joint venture, or even a merger, between RightBrain and Archetype. That idea was a non-starter, as was its later idea of endorsing the Archetype engine as a base architecture. It might have been different if NeXT had acquired the technology, but with 3.0 on the agenda, the NeXT software people didn't have time to fully evaluate the code. The result is that the document engine will be a voluntary standard and that RightBrain and Archetype will go head-to-head with their shrinkwrapped page-layout applications.

Sully's last left-coast stop was the Windows NT developers conference, at which more than 4000 developers lined up like lemmings to get their hands on Microsoft's retrograde multitasking OS. Few of them seemed to care that NT is only the equivalent of basic UNIX and OS/2; those who did found reassurance in Microsoft's smoke and mirrors about a future version, code-named Cairo, that will provide a complete object-oriented development system, "like NeXTSTEP," according to a Redmond drone. Sullivan fumed about the typical Microsoft FUD (fear, uncertainty, and doubt) tactics.

On his way east, Sullivan made a pilgrimage to Dallas to look into rumors of NeXT usage by the Perot campaign. For a billionaire, Perot can be penurious. At Perot Systems headquarters, he passed a bin where employees recycle used videotapes that will be used for distributing Ross videos. He was also surprised to have to pay for bumper stickers and campaign buttons. But Perot is prepared to spend big for computer power, even though the original plan to purchase as many as 1000 NeXTstations has apparently been scaled back slightly.

Lt. Sullivan



The other hot story in Texas during Sullivan's visit was the fading hopes for the Superconducting Supercollider, a project that could yield experimental evidence for the holy grail of physics, the Grand Unification Theory. NeXT has a unification theory of its own: While cutting-edge users have tapped NeXT mainly for developing custom apps, a broader slice of users will adopt NeXT to integrate their disparate computing systems. "Unification" is the key word you'll be hearing in marketing messages later this year.

Unification also works well with NeXT's ongoing software strategy. With NeXTSTEP ports already in the bag for Intel 80486- and Motorola 88000-based workstations, Sullivan hears that the next port will be to Hewlett-Packard's Precision Architecture RISC workstations. HP would like to offer NeXTSTEP as an alternative to its New Wave UNIX graphical user interface.

This item is included for all of you jaded techno-junkies who seem to have lost all faith in your fellow man. Last fall, a young Cal graduate lost everything – including his pride-and-joy NeXTstation – when his apartment was destroyed in the Oakland Hills fire. Incredibly, Steve himself called the next week to offer assistance. It's unknown how Steve found out about the situation, but he generously offered to replace the system, a promise that was fulfilled a few months later. Can you imagine John Sculley or John Akers doing that? Sully can't. The fact is that NeXT values the support of its users.

Is inside information burning a hole in your jeans? Save the pants and get a Jobs-autographed T-shirt in the bargain by sharing your secrets with Lt. Sullivan. Call his voice mail at 415/978-3374 or send e-mail to sullivan@nextworld.com.

NEXTWORLD

NEWS
IN BRIEF

HSD Microcomputer US announced price reductions on its line of scanners. The Scan-X Color is now priced at \$1995 (down from \$2995) and the grayscale Scan-X Professional was cut from \$2195 to \$1495. In an interim promotion, buyers will get a document feeder for free. HSD's PowerScan software is bundled with both scanners. The company's high-speed DP-20 scanner has been reduced from \$9995 to \$5995. HSD: 415/964-1400.

Simon Says 1.1 offers improved voice recognition and noise thresholds. You no longer have to train every command in applications before using them with Simon Says, and new enablers and disablers have been added for covering Simon's ears. A follow-up release is claimed to have PhoneKit support, speaker-independent voice recognition for U.S. English, and a published API. Agog: 517/627-2186 or HSD: 415/964-1400.

Stepstone Corporation announced ICPak101 for NeXTSTEP. The foundation-class library is sold with Stepstone's Objective-C compiler for PCs, Macintosh, and UNIX workstations and is now available for NeXT. ICPak101 is \$149 per user, available from Stepstone, 203/426-1875.

Object Based Computing is a new newsletter for NeXTSTEP developers, published by Information Technology Solutions (maker of the SpeedDeX personal-information manager). The first issue of the newsletter, which bills itself as "a programmer's guide to object-based computing on the NeXT computer," features articles about what object-based computing actually is, the linguistics of object- [CONTINUED ON PAGE 8]

General [FROM PAGE 1]
rating system was licensed another hardware manufacturer. In 1988, NeXT licensed XTSTEP 1.0 to IBM for use on the RS/6000 workstation. Although the deal bought XT credibility and much-needed cash, disagreements between the two companies and fringes within IBM prevented it from bringing NeXTSTEP to market.
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[CONTINUED ON PAGE 8]

OO database in store

by LEE SHERMAN

San Francisco - NeXT and Object Design (ODI), of Burlington, Massachusetts, have joined forces in an attempt to create a new standard for object-oriented storage and database technology.

At Object World here in late July, NeXT CEO Steve Jobs called ODI the "Adobe of object-oriented databases," claiming the company's ObjectStore software was destined to become the standard means of storing objects across multiple platforms.

Jobs called object-oriented storage a natural extension to NeXT's existing object-oriented environment. "Object-oriented storage is the primary hill that is left to climb, and we're going to climb it," he said.

Currently, there are only lim-

More object news

- NeXT joins OMG
- Birth of the object market
- ObjectWare announcements
- What is an object?

See stories, pages 5 and 7



NeXT sharpens sales focus

by DAN LAVIN

Redwood City, CA - NeXT management, confident that its current sales strategy will continue to be successful, is increasing its domestic sales force by 50 percent. NeXT will increasingly focus its efforts on large-to-jumbo-sized opportunities presented by Fortune 500 companies, the federal government, and higher education.

"We've cracked the code. We know how to sell these things now," said Todd Rulon-Miller, NeXT's vice-president of North American sales.

Rulon-Miller and recently named NeXT President Peter van

RDBMS vs. ODBMS		
Characteristic	Relational	Object-oriented
Number of transactions	Large	Small to medium
Amount of data retrieved	Small	Large
Data structures	Simple	Complex
Length of transactions	Short	Variable
Distribution model	Centralized	Distributed
Data reuse	Low	High

Source: Object Design

ited mechanisms to support the maintenance of objects in NeXTSTEP.

"There's a revolution happening in database technology that is parallel to what happened with SQL," Jobs said. "Slowly but surely ODBMS will take over from the relational database."

Object Design will port ObjectStore 2.0 to NeXTSTEP Release 3.0. Ultimately, NeXT and ODI will codevelop a version that will be largely embedded in the operating system. The new software will be freely licensed to third parties, much as Display PostScript is today.

According to William L. Blundon, ODI vice-president of marketing, an ODBMS is designed to meet the development needs of the future. "A relational database is application software that is very good at doing short, simple

transactions using text and data. An ODBMS contains both applications and system software that can handle all forms of data and can do transactions as fast as you can move the mouse, all the way up to transactions that take a couple of weeks."

An ODBMS goes beyond the traditional relational model by supporting multimedia data types, including graphics, audio, and video and by including powerful distributed-object management capabilities. [SEE ODI, PAGE 7]

NeXT to charge developers

by SIMSON L. GARFINKEL

Redwood City, CA - From warmhearted encouragement to outrage, NeXT developers have voiced a wide range of opinions about NeXT's decision to begin charging for technical support.

Effective August 31, NeXT will charge third-party developers \$3500 per year and corporate

Panel proves objects are for throwing

by CLAIR WHITMER

San Francisco - They were supposed to explain their visions of object technology, but the five industry leaders sharing the podium at Object World ended up using much of the keynote for verbal fencing. When the dueling ended, it seemed that NeXT Chairman and CEO Steve Jobs, who emphasized "real objects today," had the advantage.

The panel featured the "rock stars" of the industry, including Philippe Kahn of Borland International, Taligent's Joseph Guglielmi, Steve MacKay of SunSoft, and Microsoft's Jim Allchin.

"The only thing we all have in common," [SEE KEYNOTE, PAGE 7]

New developer-support pricing

	List	Registered developers
Developer hot-line subscription (1 year)*	\$5000	\$3500
Additional subscription contacts	\$500	\$350
Single question	\$225	\$160
"Six-pack" of questions	\$1300	\$910

*Allows two designated contact people to ask NeXT an unlimited number of questions.

developers \$5000 per year for its new Developer Hot-line Subscription service, said Alexander H. Fitz, NeXT's manager for developer marketing programs.

The service lets developers ask unlimited questions for one year. Developers may also choose to pay per question or buy a "six-pack" of questions. Registered third-party developers receive a 30-percent discount on all services.

Developers who chose to pay per incident will not be charged for workarounds or if their problems are due [SEE PRICING, PAGE 8]

To our readers: New ship policy

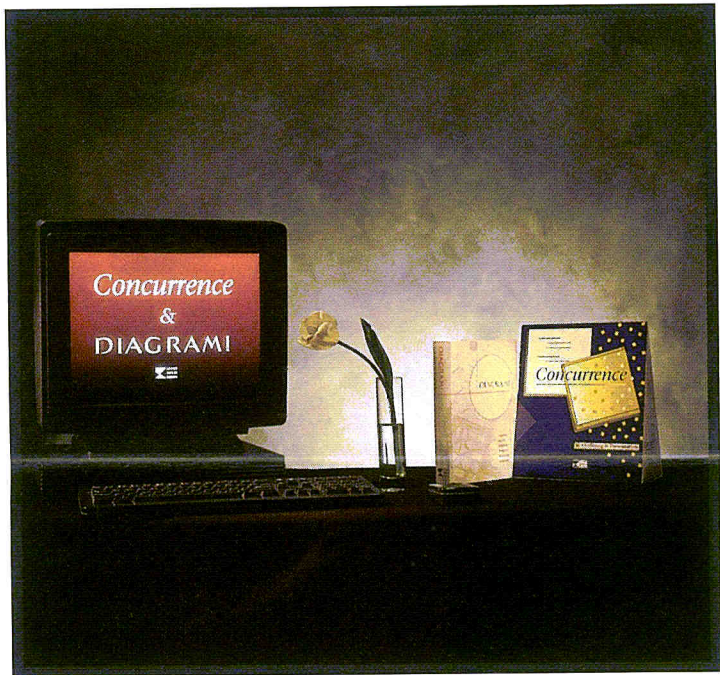
Beginning with this issue, NeXTWORLD Extra will report that products have shipped only when they have officially entered the distribution channel. In the past, in an effort to be timely, we have reported shipments based on vendor projections. In our

August issue, for example, we erroneously reported that RightBrain Software's PasteUp and Software Ventures's MicroPhone II shipped in July. This new policy may mean that our news will be less prompt, but it will be more accurate.

- DAN RUBY



Workstation productivity circa 1980



Workstation productivity circa 1992

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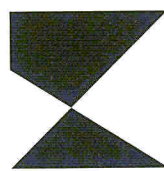
In the early 1980s, the world saw the first inklings of a revolution called *DESKTOP PRODUCTIVITY*. With it came *SOFTWARE* designed to replace the tools on your desk with tools for your computer. Finally, we were spared the frantic effort.

But somehow, the late nights still lingered. Why? Because the electronic equivalent to a mug full of drawing pens and a paperboard easel left us wanting more—we needed a *FUNDAMENTALLY DIFFERENT* way of looking at productivity and communication.

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Support for ch among hidd



by SIMSON
GARFINKEL

Redwood
City, CA –
NeXTSTEP

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Here's a list of new features
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Workspace chunking

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Workspace Manager then copi
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New mail features

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The new compiler, based upo
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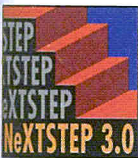
Xerox OCR wil

by DAN RUBY

Portland, OR – NeXT users wi
have a choice of optical charac-
ter-recognition (OCR) software
when Insight Software complet
its port of Xerox Imaging Sys-
tems's ScanWorX this fall. The
NeXT version, to be called
ElectroWorX, will be marketed
as a stand-alone product or cou-
pled with Insight's ElectroFile
document-management system.

Until now, OCR Servant,
from HSD Microcomputer US,
has had the NeXT OCR marke
to itself. According to Katharin
Beers, Insight's director of mar-
keting, ElectroWorX is suited f
high-volume imaging. It can

Support for chunking, C++ among hidden features in 3.0



by SIMSON L. GARFINKEL

Redwood City, CA – NeXTSTEP

3.0, scheduled to ship at the end of August, promises to be a boon to both users and developers. Here's a list of new features we've discovered in 3.0 over the past few weeks:

Workspace chunking

Can't fit a file onto a single floppy disk? Workspace Manager in 3.0 automatically "chunks" files that are too big by compressing the file and splitting the resultant archive into separate pieces. Workspace Manager then copies each piece onto a floppy, ejects the disk, and prompts the user to insert the next disk.

New mail features

With encryption missing, NeXTMail 3.0 is only marginally different from its 2.0 counterpart. Mail can now automatically play a sound when new mail arrives. Other features in the Mail 3.0 Preferences panel include the ability to set a "Reply-to" default and change the default length for non-NeXT mail.

Better compiler

The new compiler, based upon version 1.96 of the Free Software Foundation's GNU C Compiler, produces code that is consistently faster and smaller than the version 1.36 compiler that was included with the NeXTSTEP 2.1 Extended Edi-

tion. The new compiler also contains more compile-time checks and warnings, which should reduce development time and help developers produce programs that are more reliable.

C++ support

NeXTSTEP 3.0 includes complete support for the C++ object-oriented programming language. Under NeXTSTEP 2.1, developers had to obtain additional files in order to compile C++ programs.

Font and printer support

You can now tell NeXTSTEP to include your fonts in the PostScript files that it creates. NeXTSTEP 3.0 will automatically include nonstandard fonts in stand-alone PostScript printers.

In addition, NeXTSTEP 3.0 now directly supports the Epson 510 and IBM ProPrinter 24P dot-matrix printers. Many other printers will emulate either the Epson or the IBM, which means that you can now print from a NeXTstation for less than \$200.

New fax features

NeXTSTEP 3.0 now stores its files with Group IV compression by default, allowing faxes to occupy half the space that they did under NeXTSTEP 2.1. You can also rotate faxes by 0, 90, 180, or 270 degrees. When sending faxes, you can specify at what time the faxes should be sent, to minimize long-distance bills. ♦

Xerox OCR will be ported to NeXT

by DAN RUBY

Portland, OR – NeXT users will have a choice of optical character-recognition (OCR) software when Insight Software completes its port of Xerox Imaging Systems's ScanWorX this fall. The NeXT version, to be called ElectroWorX, will be marketed as a stand-alone product or coupled with Insight's ElectroFile document-management system.

Until now, OCR Servant, from HSD Microcomputer US, has had the NeXT OCR market to itself. According to Katharine Beers, Insight's director of marketing, ElectroWorX is suited for high-volume imaging. It can

operate uninterrupted for hours, automatically converting image to text as the documents are scanned at the rate of 20 pages per minute.

Beers said ElectroWorX is able to read "dirty" documents and can learn from its previous experience. It is this ability that leads Xerox to classify its technology, also available on Sun and Macintosh systems, as "intelligent character recognition."

Insight said it will price the software at more than \$2000 and expects to deliver it by mid-October.

Insight is at 3004 S.W. First Ave., Portland, OR 97201 and can be reached at 503/222-2425. ♦

NSA allows encryption

by SIMSON L. GARFINKEL

Washington, DC – An agreement between the Software Publisher's Association (SPA) and the National Security Agency has cleared the way for the export of mass-market software that performs data encryption.

Under the agreement, the U.S. Department of State will grant export permission to any program that uses the RC2 or RC4 data-encryption algorithm with a key size of less than 40 bits, according to Karen Casser, the SPA's director of public policy and legal affairs. RC2 and RC4 are proprietary algorithms developed by RSA Data Security of Redwood City, California.

But critics of the government's export policy say a 40-bit key does not provide adequate protection. Using such a system would "promulgate a false sense of security," said Dave Banisar, a policy analyst with the Computer Professionals for Social Responsibility.

Each additional bit in RC2 and RC4 would double the difficulty of breaking the cipher, said Jim Bidzos, RSA Data Security president. The government's own

Data Encryption Standard (DES) uses a 56-bit key; the State Department will continue to prohibit the exportation of DES in mass-market software under the new agreement.

A message encrypted with RC4 and a 40-bit key could be forcibly decrypted, or broken, by a 100-MIPS computer running for one year. The biggest threats, said Bidzos, would probably come from engineers making unauthorized use of a company's computers at night for personal ends.

"Based on the 100-MIPS-per-year figure, we could easily [decrypt a message encrypted with the system] in a day with only a few hundred NeXTstations," said Avadis Tevanian, NeXT's director of system software.

By allowing only the export of a proprietary encryption algorithm with a limited key size, the implication is that the NSA "either wants encryption to be very difficult to use, expensive to use – because it is proprietary – or it is something that they know how to break," said Eugene Spafford, an expert on computer security at Purdue University.

Since the 40-bit restriction makes the RC2 and RC4 algorithms significantly weaker than NeXT's own Fast Elliptic Encryption – and since 40 bits is the maximum key length to which the NSA was willing to agree – it is unlikely that NeXT will be able to export its encryption system in any event. ♦

Archetype tuning up Doc Engine

by CONNIE GUGLIELMO

Waltham, MA – Archetype released in July a beta version of its much-discussed Document Engine (DE), an object-oriented development tool that embodies one of the cornerstone technologies in NeXT's new publishing strategy.

The DE Developer Kit, including a beta version of the DE and sample DE-based applications for NeXT computers, is priced at \$995. Archetype President Paul Trevithick said he expects it will take six to nine months to fine-tune the beta version.

Archetype's DE was introduced at Seybold Seminars '92 in March along with the NeXT Publishing Environment, NeXT's strategy for capitalizing on NeXTSTEP's ability to create modular, expandable applications. The DE provides a tool kit of ready-to-use objects, including a Document Architecture and a library of compatible sub-objects, that can be linked to form full-featured publishing software, including page-layout, word-processing, and database-publishing applications.

The objects managed by the DE are polygons, circles, Bezier curves, pages, groups, rules, and pictures. Archetype said that developers can add objects to the DE to extend its capability at run time.

Any application created using the DE will be compatible with other DE-based applications.

In order to run DE-based applications, users must purchase the DE from Archetype, which currently has plans to sell it for \$150 per engine. Trevithick said he also envisions that third-party developers who create DE-based application will bundle the DE along with their software.

Archetype can be reached at 617/890-7544. ♦

Conexions extends tools for mainframe connectivity

by DAN RUBY

San Francisco – Corporate NeXT users can access data on IBM mainframes and minicomputers much more easily with a variety of new products from Conexions.

The North Andover, Massachusetts, company has extended its line of IBM connectivity products with 5250Vision, which connects NeXT computers to IBM AS/400 midrange systems; an upgrade to 3270Vision; and a palette of objects for developing distributed-networking applications. All the software products work in TCP/IP heterogeneous network environments.

"Connectivity with the IBM world is an absolute requirement for us," said Tim Krus, fiscal research analyst supervisor for the City of Baltimore. "All our accounting information is stored on the IBM mainframe, and we need to have continuous access to it."

Key features of 5250Vision include smart copying and pasting of mainframe data into NeXTSTEP applications; user-definable

keys to record complex command sequences into a single keystroke; and direct mapping of special 5250 keys to the NeXT keyboard. Up to 64 concurrent 5250 terminal sessions can run simultaneously.

The company's 3270Vision 3.0 also supports up to 64 mainframe sessions. Other new features include support for 3290 displays, session preferences, automatic login, and file transfer from MVS/TSO and VM/CMS host environments.

For users who want more than basic terminal emulation, Conexions offers its Network Palette, a library of objects that can be dragged and dropped directly into Interface Builder panels for developing distributed-networking applications.

The object library is scheduled to ship in September, the company said. Single-user licenses for 5250Vision or 3270Vision are priced at \$595.

Conexions is located at 1545 Osgood St., North Andover, Massachusetts 01845, and can be reached 508/689-3570. ♦

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B U NeXT e

by DAN RUBY

San Francisco - NeXT may have been the 261st company to join the Object Management Group (OMG), but it intends to be at the front of the line when it comes to proposing object standards.

In ending its holdout from the industry consortium, NeXT announced that NeXTSTEP 3.0 would be "OMG conformant," making it the first computer company to ship a suite of objects that conform to OMG specifications. NeXT also said it would be an active participant in shaping OMG's future direction.

"By joining OMG, NeXT has become a citizen of the world of computing," said Nir Lytton, editor of *Open System Advisor*. "This shows that NeXT understands real customer requirements."

The OMG aims to establish a common framework for application development across all major hardware platforms and operating systems. To date,

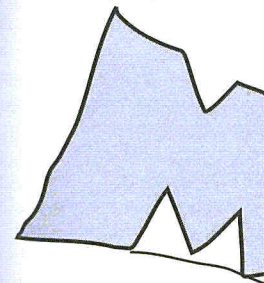
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- Bruce Hen

Object Orien
"The API
- Paul Burford

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NeXT ends OMG holdout

by DAN RUBY

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The OMG aims to establish a common framework for application development across all major hardware platforms and operating systems. To date,

OMG has settled on one technical standard, the Common Object Request Broker Architecture, or CORBA, a specification for messaging between objects over networks.

Other major OMG participants include Sun Microsystems, Hewlett-Packard, and Digital Equipment Corporation.

According to OMG President Christopher Stone, the "OMG-conformant" status means that NeXTSTEP and third-party

NeXTSTEP objects are compatible with the CORBA specification. "We welcome NeXT's full participation in our work to establish widely used standards for object technology," Stone said.

NeXT CEO Steve Jobs said the company had delayed joining OMG because "we were less than delighted with the elegance of some of OMG's early work. But its latest work on distributed-object technology is better." ♦

Perot's pullout sinks hopes for campaign run on NeXTs

by DAN LAVIN

Dallas — In quitting the presidential race, Ross Perot left the country and the NeXT community wondering what might have been.

Although Perot, who owns more than ten percent of NeXT, never promised a slab on every desk in Washington, some benefits would certainly have accrued

from having a technologist — a NeXT-aware technologist at that — in the White House.

Specifically, the Perot campaign was considering ordering several hundred NeXT computers to link volunteer offices around the country. Mike Hawley, a NeXT employee on leave and the author of *Digital Librarian*, traveled to Dallas at the behest of Perot Systems head Mort Myerson to assess computing needs for the campaign.

Hawley and Myerson recommended NeXT machines for its advantages in custom-app development, interpersonal communication, and network solutions.

Sources report that serious negotiations were underway to sell the machines at a substantial but not unprecedented discount when the campaign folded.

"This is an interesting time to bring technology to bear, and I think it would have had a real and memorable impact," said a disappointed Hawley. ♦

NeXT's hat in ring in gubernatorial race



by ELIOT BERGSON

Ross Perot is back on the ranch, but Earle Williams may ride into the Virginia

statehouse on NeXT technology.

With 17 NeXTstation Turbos and Turbo Color machines,

workers in Williams's '93 Republican bid for the governorship are using WordPerfect, PasteUp, and custom software developed by RDR, a Fairfax, Virginia-based NeXTSTEP developer. RDR's software can generate customized letters to telephone respondents based on their answers to campaign workers' questions.

On the financial-services front, B-Cubed, a Woodbridge, New

Jersey-based value-added dealer, has sold 26 NeXTstation Color Turbo machines to Equitable Securities in New York as part of a pilot program. The system integrator is Chicago-based TSC.

B-Cubed is also negotiating with Republic National Bank to replace 50 Dell '486s with NeXTs on its trading floor. Republic is currently running 50 NeXTs in its legal department in New York. ♦

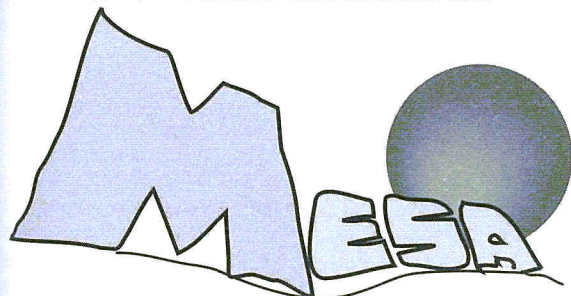
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Vertex Librarian the advanced Digital Librarian™

Vertex Software has just announced the release of version 1.0 of the *Vertex Librarian*. The *Vertex Librarian*, as its name might suggest, has an interface immediately recognizable to users of NeXTstep's Digital Librarian and includes all the functionality you are used to. That's where the similarity ends. *Vertex Librarian* has extensive text search and retrieval capabilities including: full text search using keywords, phrases, numbers, dates, proximity and boolean logic as well as conceptual search using a thesaurus or full semantic network. Utilize a thesaurus for your specific field of interest for more thorough queries. Create and maintain semantic networks of subjects you are interested in for more precise queries. Hypertext your documentation and text files to quickly find related information. Use the document analysis tools to automatically classify your documents. Use the document structure recognition tools to limit queries to specific structural parts of your documents. And a lot more. The *Vertex Librarian* comes with a general thesaurus which has over 1.2 million links already established between terms. The on-line help system and the tutorial have already been put in hypertext form to get you off to a quick start. Now shipping, \$399. OEM and site license inquiries welcome.

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Suite goes cross-platform

by KRISTIN DYER

La Mesa, CA – Suite Software announced an Architecture Encapsulation Layer for SuiteDOME, its Distributed Object Management Environment, in late July. According to the company, any application developed

using SuiteDOME can run on any platform, provided the other machine is also running SuiteDOME. Supported systems include NeXTSTEP, Sun Sparc, IBM RS/6000, HP/9000, OS/2, Windows, and VAX/VMS.

SuiteDOME's API (application program interface) can handle

messaging, naming, security, and data access across environments. The SuiteDOME environment encapsulates node, process, application, user, environment variables, files, directories, a class for operating-system characteristics, and other features but does not support platform-specific development capabilities.

Included under the SuiteDOME umbrella are the object

language SuiteTalk; a distributed-data-management system, SuiteDDM; and a developer's workbench. The distributed-object system was developed with the CORBA (Common Object Request Broker Architecture) standards from the Object Management Group (OMG) and could be NeXT's answer to OMG conformance, said Bernadette Middleton, area sales manager for Suite.

NeXTSTEP is the development platform for Suite and was chosen for its object-oriented graphical interface. "The engineers love it," said Middleton. Support for other platforms has been customer driven. Current users of SuiteDOME include the U.S. Navy's airlift division and companies in the steel and airline industries.

Suite Software can be reached at 619/698-7550. ♦

Catalog's object market for sof

by ELIOT BERGSON

San Francisco – With the announcement of *ObjectWare: A Catalog of Objects and Kits for NeXTSTEP* at Object World here in July, NeXT signaled a bold move into a market that is only beginning to be defined.

The catalog lists more than 120 objects, kits, classes, and palettes to help developers more easily write programs. Objects for communication, database systems, education, and training, as well as public-domain and niche-market objects, are included. The catalog is available from NeXT for \$10.95.

Jobs showed the catalog to the keynote audience as proof that NeXT is shipping "real objects now," but confusion over basic terms like "palette," "subclass library," and even "object" abound. "Objects are like a genealogy chart. Each individual brings functionality and intelligence to the puzzle," said Greg Anderson, of Anderson Financial Systems, acknowledging that the terms are hard to understand for nonprogrammers.

"NeXT needs to educate people about object-oriented software. The catalog is a good start as is industry-standards participation, but I can see seminars by NeXT to really push the message home," said Chris Walters of RDR, a Fairfax, Virginia-based NeXTSTEP developer.

In the absence of clear defini-

Keynote

[FROM PAGE 1]

said Jobs after two hours of demos and one-liners, "is that we all have to go to the bathroom."

Allchin, vice-president of advanced systems for Microsoft, opened the door to criticism by saying, "We haven't done a very good job at all of communicating what object technology is to Microsoft."

Emphasizing Microsoft's "evolutionary" approach to objects, Allchin outlined plans for object technology in Windows NT, including OLE (Object Linking and Embedding) technology. But Borland CEO Kahn dis-

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Kit translates text to speech

by KRISTIN DYER

Calgary, Alberta – Trillium Sound Research last month shipped TextToSpeech Kit for the NeXT, a synthetic-speech development kit and user application that uses the Digital Signal Processor to generate an acoustic resonance model of vocal chords.

A main dictionary that phonetically describes 100,000 English words is backed up by letter-to-sound rules for unknown words. Developers and users can create custom dictionaries, using phonetic symbols to describe their favorite words or pronunciations. A bundled pronunciation editor, PrEditor, uses phonetic-symbol sets derived from Merriam-Webster's dictionaries; the International Phonetic Association; and the work of David Hill, Trillium vice-president of research and professor of computer science at the University of Calgary. PrEditor manages speed, pitch, rhythm, and stereo placement.

The user application, Big Mouth, can be accessed from the Services menu to read any selected text.

"The NeXT is particularly well suited for sound research," said Hill, a former researcher with the Phonetics and Linguistics Department at Edinburgh University, Scotland. "It fit perfectly with my research interests."

Possible uses envisioned by Hill include the ability to retrieve NeXTmail text messages over the phone or automated voice-reminder systems. Since a user will need only one installed copy of the program for any program to take advantage of text-to-speech capabilities, getting the product bundled is on the agenda. Said Hill, "We think every NeXT should have the capability of speaking."

Single-user development kits cost \$290; the user license is \$145.

Trillium Sound Research is at 1500, 112 Fourth Ave. S.W., Calgary, Alberta T2P 0H3, Canada and can be reached at 403/284-9278 or 403/282-6778 fax. ♦

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Catalog's object: Define new market for software modules

by ELIOT
BERGSON

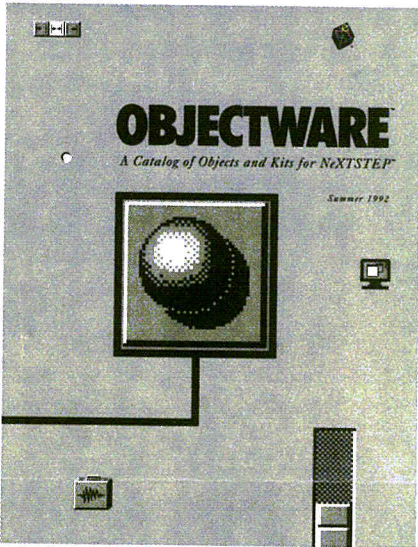
San Francisco – With the announcement of *ObjectWare: A Catalog of Objects and Kits for NeXTSTEP* at Object World here in July, NeXT signa- led a bold move into a market that is only beginning to be defined.

The catalog lists more than 120 objects, kits, classes, and palettes to help developers more easily write programs. Objects for commu- nication, database systems, education, and training, as well as public-domain and niche-mar- ket objects, are included. The cat- alog is available from NeXT for \$10.95.

Jobs showed the catalog to the keynote audience as proof that NeXT is shipping "real objects now," but confusion over basic terms like "palette," "sub- class library," and even "object" abound. "Objects are like a gene- ology chart. Each individual brings functionality and intelli- gence to the puzzle," said Greg Anderson, of Anderson Financial Systems, acknowledging that the terms are hard to understand for nonprogrammers.

"NeXT needs to educate peo- ple about object-oriented soft- ware. The catalog is a good start, as is industry-standards partici- pation, but I can see seminars by NeXT to really push the message home," said Chris Walters of RDR, a Fairfax, Virginia-based NeXTSTEP developer.

In the absence of clear defini-



Steve Jobs showcased the ObjectWare catalog at Object World to prove that NeXT has "real objects now."

tions, developers are attempting different marketing strategies, and it may take years for the market to standardize.

RDR, the second company in the commercial-objects market after OTI, sells its "reusable com- ponents" through NeXTCon- nection and a European distributor. Anderson presently sells objects directly and offers customization through consulting, but he envi- sions a day when developers will provide enough API hooks on all development tools and shrink- wrapped apps that end users will be able to perform easy in-house customization.

Charles Perkins, a long-stand- ing developer in the NeXT com- munity, sees the future including a central repository for objects, modeled on the music industry's ASCAP royalties watchdog, which will provide developers with the chance to simply order an object to use in code and be billed at the end of the month. ♦

Keynote

[FROM PAGE 1]

said Jobs after two hours of demos and one-liners, "is that we all have to go to the bathroom."

Allchin, vice-president of advanced systems for Microsoft, opened the door to criticism by saying, "We haven't done a very good job at all of communicating what object technology is to Microsoft."

Emphasizing Microsoft's "evolutionary" approach to objects, Allchin outlined plans for object technology in Windows NT, including OLE (Object Link- ing and Embedding) technology.

But Borland CEO Kahn dis-

missed Microsoft, saying, "The only thing object-oriented about OLE is its name."

Kahn stressed the advantages of objects for end-user develop- ment and demonstrated an appli- cation developed by the San Jose Police Department using Bor- land's tools.

But Jobs dismissed the appli- cations as just another database front-end tool. "We'd better be careful about the way we use these [object-oriented technology] terms, or they'll end up meaning nothing," said Jobs.

SunSoft's MacKay, vice-presi- dent of user environment soft-

ObjectWare offerings cover the bases

by KRISTIN DYER

San Francisco – NeXT's new ObjectWare catalog rolled off the presses at Object World in late July, providing NeXT users and developers with descriptions of more than 120 commercial and public-domain objects.

Some objects provide addition- al support for Application Kit classes, while others are full kits and palettes of their own. What they all do is allow developers to increase the functionality of cus- tom or commercial applications without increasing the headaches.

• Singular Solutions has solved the limitation of Matrix cells. The inability to set cell heights and widths for grids of buttons has left developers pasting in custom but- tons one at a time. SUMatrix allows arbitrary heights and widths for cells in columns and rows. 514/849-3631.

• Digital Composition Sys- tems has attacked the problem of creating multiple text objects in a grid. As a subclass of View, SpreadsheetVue cells are all inde- pendently editable and suitable for spreadsheets and databases. 415/673-5322.

• Digital Tool Works is mar- keting the central object of its EquationBuilder typesetting pro- gram. The Equation object hand- les 19 element types and has 30 adjustable parameters for type- setting and kerning, displaying mathematical expressions intelli- gibly in any document, sending faxes, or outputting EPS and TeX files. 617/742-4057, equa- tion_object@dtw.com.

• Frontier offers two palettes to customize your output. The Graphical Control Palette adds dials and gauges to your mea- surement repertoire; use included styles or create your own. TextField Palette contains three inspector-based objects: Date- Field allows custom formatting of

date and time output, including custom clock displays for those who are tired of the current selec- tion; Number Field similarly allows you to set your favorite number of decimal places or indi- cate that a figure is in dollars, not cents; and Validate TextField provides for the generic format- ing of any character-based string. 800/448-6398 or fron- tinc!john@uunet.uu.net.

• Hot Software is following up its BarCodeKit with the Serial- PortKit. The kit supports input and output to generic serial-port devices and includes objects for specific label printers, bar-code readers, magnetic-stripe-card readers, and modems. 617/252- 0088, info@hot.com.

• Insight Software has broken out the Scanner palette from its acclaimed ElectroFile data orga- nizer. Three subclasses support HSD ScanX, HSD DP-20, and the ultra-fast Fujitsu M3096.

503/222-2425, info@insight.com.

• BenaTong steps up connec- tivity with its Wizard Works Library. Individual objects handle each function of Sharp Electron- ics's Wizard organizers, allowing developers to include support and data sharing in their applications. 614/276-7859.

• Doberman Systems is speed- ing up analysis of complex situa- tions with SimulationKit. Objects can be organized in the same fash- ion as mathematical block dia- grams, allowing rapid development and modification. 801/944-4329.

• Dr. Michael J. Mezzino, Jr., proves that education is not all the- ory. MathGraph is an object class for graphical-mathematics display. Users can control and display graphical models using fixed or variable data in two or three dim- ensions. Data scaling, axes control, data plotting, and limited anima- tion are included. 713/331-6624, mezzino@gauss.cl.uh.edu. ♦

An object by any other name!!!

by ELIOT BERGSON

San Francisco – "What is an object?" Attendees who answered this question at Object World all began their answers the same – with a laugh – before putting their own particular spin on the cute geometric shapes gracing the cover of the confer- ence catalog.

"Objects manage – hide – com- plexity at the highest level." – Steve Jobs, CEO, NeXT

"The basic concept of an object is anything in the real world, and in software you model the real world. You treat 'date' and 'line' as an object. It's real basic right now. But eventually,

you'll treat an entire company as a software object, where messages are sent and under- stood between sections." – Dan Whitaker, object pro- grammer, Rogue Wave

"An object is like a pet, but more like a dog than a fish. You tell it certain things to respond to, and when it recog- nizes the commands it acts. When it doesn't understand, it smiles and ignores you." – Jamie Dinkelacker, marketing vice-president, Amix Corporation

"An object is the only thing you need to know about computing in the '90s." – Bill Blunden, vice-president of marketing, ODI

system that is completely object- oriented.

Although Guglielmi relegated NeXTSTEP to the category of "Generation II" environments, Jobs opened his demo by saying that he agreed with everything Guglielmi had described. "And I'm going to give you a free demo today," said Jobs.

On the verbal offensive in his critique of non-NeXT tech- nology, Jobs seemed to steal the show with his demo of NeXT technology and announcement of conformance with OMG (Object Management Group) standards. ♦

ware, was also cautionary. "You can't shake objects out of a box and fix all the problems of a multivendor, heterogenous environment."

MacKay explained SunSoft's "phased approach" to its Project DOE (Distributed Objects Every- where), including the ToolTalk object-oriented application messaging system and planned CORBA (Common Object Request Broker Architecture) implementation, called DOMF, to be introduced this year.

For his pitch, Taligent CEO Guglielmi outlined his vision of a "Generation III" operating

ODI

[FROM PAGE 1]

Additionally, an ODBMS drasti- cally reduces the time required to cre- ate advanced transaction systems.

Other vendors of object-orient- ed storage technology were taken aback by the announcement. Ver- sant Object Technology, of Menlo Park, California, announced plans to port its ODBMS to the NeXT on the same day that NeXT and ODI announced their plans. Matthew Miller, director of corpo- rate marketing for Versant, down- played the alliance: "We have cus- tomers for our NeXT object database. That's more important than a strategic alliance." ♦

BRIEFS
Continued

oriented programming, and an analysis of why the computer industry is switching to object-oriented development environments. Annual subscriptions are \$28. For info, contact ems@its.com or call 800/394-4487.

NeXT has created a new e-mail alias for developer comments. The alias, Dev_comments@next.com, was created after NeXT received a storm of e-mail surrounding the company's decision to charge for developer support. Each message sent to the mail alias will be logged and responded to, said Jan Tyler, manager of the NeXTedge products and programs group.

Aurora Software is sponsoring a software sweepstakes, in which it plans to give away copies of its \$19.95 QuickStart application organizer and Dock extender. To enter, hand-print and sign your name and mailing address on a slip of paper and mail it before October 30 to Aurora Software, Attn: Software Sweepstakes, 16 N. Allen St., Madison, Wisconsin 53705. For complete contest details, contact Aurora at 608/231-3679; e-mail: sweepstakes@as.com.

A free port of X11R5 to the NeXTstation Color has been completed by Paul Poh of Tufts University. A beta release of the port can be obtained by anonymous FTP from the Internet site amethyst.tcs.tufts.edu [130.64.3.5]. The distribution requires 50MB of disk space and includes all libraries, standard MIT R5 clients, fonts, include files, and manual pages. For information contact Poh at ppoh@amethyst.tcs.tufts.edu.

NeXTWORLD Extra is a supplement of *NeXTWORLD* magazine. It is published monthly by Integrated Media, a subsidiary of IDG Communications, 501 Second St., San Francisco, CA 94107, and is distributed free to subscribers of *NeXTWORLD*. Lt. Sullivan's column and articles about unannounced NeXT products are reported and written by contributors without guidance from the *NeXTWORLD* staff.

Editor: Dan Ruby; Managing Editor: Connie Guglielmo; Associate Editor: Eliot Bergson; News Editor: Dan Lavin; Staff Writer: Simson L. Garfinkel; Layout Chief: Sue Troy

Pricing

[FROM PAGE 1]

to NeXTSTEP bugs. "It will be at the engineer's judgment as to whether what is being reported is truly a bug," said Elton Sotello, NeXT's manager of customer support.

The decision to charge for support comes after an analysis of the support logs for the past four months, said Fitz, during which time questions to the Developer Support Team had skyrocketed. "We found that a lot of people, since they had free support, put Developer Support on their autodialer," said Fitz, adding that many questions could easily have been answered by referring to on-line documentation.

Sales

[FROM PAGE 1]

burg's trademarks since his arrival.

Some results: The sales teams that have focused on a few very large sales opportunities have generated the greatest return on investment, as opposed to efforts targeted at smaller accounts. Also, the sales cycle on large accounts, traditionally thought to be 18 to 24 months, can be whittled to 6 to 12 months, Rulon-

Other computer companies already charge for support. Microsoft charges \$2500 for one year of technical support; individual questions are answered for \$150. SunSoft sells six hours of "code-level consultative support" for \$695.

When NeXT first alerted developers about the support problem at NeXTWORLD Expo in January, developers reported they would rather pay for timely support than have NeXT's high quality of support drop, according to Fitz.

Nevertheless, many developers are not pleased to have to pay for something that, until now, has been free.

"It's psychological," said

Miller said.

Armed with these results and what he feels is a winning product line and marketing message, Rulon-Miller said that NeXT "no longer invests speculatively when we hire reps but plants seeds for substantial, predictable quotas." His sales force will grow this year from between 40 to 45 quota-bearing teams to 60 to 65 by the end of the year. A team includes one sales rep, one sys-

Stephan Adams, president of Adamation, in Oakland, California. "I can understand why they're doing it: It's a revenue stream. They're keeping in tune with the rest of the industry."

Will Adamation sign up for the one-year subscription? "Heck no," said Adams, who added it was often faster and easier to get an answer from other developers than going through official support channels.

Other developers said they plan to purchase the new products. "We believe in developer support very strongly," said Jonathan Schwartz, president of Lighthouse Design, which recently moved from Chevy Chase, Maryland, to San Mateo, Califor-

nia. "They facilitate getting your app to market."

Small developers who haven't shipped their first product have complained the most about the new policy, said Jan Tyler, who manages the NeXTedge products and program group.

"When I first started OTI, I called the 800 number all the time. Now I wait until there is an absolute disaster brewing," said Alex Cone, president of New York-based Objective Technology, who added that he will subscribe to the new service.

Cone advised new developers to find informal ways to get their questions answered: "Find your local NeXT people and buy them a beer." ♦

Since NeXT relies on the channel for creating demand, not simply filling orders, it prefers that only strong value-added resellers and dealers carry the product line.

Though NeXT has not announced sales figures for the second quarter, Rulon-Miller said that the new direction is already bearing fruit. "We had a number in North America and exceeded it," he said. ♦

Noteworthy morning for Jobs and company

Sometimes Sullivan has to do his real job, and with all the late-July brouhaha over Iraq he wasn't able to make the scene with the widget crowd at Object World. He did dispatch a field agent, though, to monitor the proceedings. From his seat in the third row at the conference keynote, Sully's man managed to capture the fireworks on videotape, which he couriered back to Virginia for lab analysis.

While the audience was gasping at the verbal brickbats, the camera captured an extraordinary amount of paper notes being passed around the stage. Halfway through the slugfest, Borland first saxophonist Philippe Kahn scribbled a missive and passed it over to Steve Jobs. Using the agency's best image-enhancement technology, Sully was able to decipher the content: "We should work together." Presumably, Philippe wasn't referring to his jazz band's next gig.

A few moments later, another note was passed to Steve from offstage. It turned out to be final word that lawyers had at last inked the deal between NeXT and Object Design. The agreement, allowing NeXT to incorporate ODI's object database as a replacement file system for future versions of NeXTSTEP, had been in the works for months. Steve had a slide queued up to announce the agreement, but the negotiations had gone down to the wire. The note gave Steve the go-ahead to make the announcement.

Regardless of any crisis-of-the-moment in September, the Lieutenant has no intention of missing the Seybold show in San Francisco. Besides looking for some flesh on marquee programs like Pages by Pages, Appsoft Image, and Archetype Page, Sullivan is expecting a flood of small but significant announcements.

Bacchus Software will be unveiling Image Agent, a file-conversion product that works invisibly with any application that accepts drag-and-drop graphic images. Under NeXTSTEP 3.0, apps can then accept all the file formats supported by PixelMagician. Image Agent will be bundled with PixelMagician 1.1.1 at no extra cost but will also be available separately.

Paragon Concepts will be showing an alpha version of its deluxe Nisus word processor. Goldleaf Publishing will show an interface to the Epson ES300C color scanner. HSD is working hard on a 1200-dpi replacement to its popular Scan-X Color scanner as well, and it will also offer a variety of companion utilities to its PowerScan software.

Speaking of HSD, it will supply a disk of foreign-language spell checkers that NeXT will bundle with European systems beginning October 1. Buyers will get English and their choice of one other language for free; additional languages on the disk can be unlocked for \$99 each.

On the '486 front, NeXT is getting ready to announce the first big customer for one of its OEM partners. If all goes as expected, it will be the largest installation of NeXTSTEP anywhere.

The seller's market for NeXT developers remains hot. Pencom and Trirex, two of the largest UNIX consulting houses, are hiring whatever talent they can find for consultant commando teams to work for NeXT on a subcontract basis. Thus, when a NeXT customer needs custom-programming work, the commandos come in under NeXT's label. Other customers are looking for in-house developers, of course, including the infinitely prestigious Mayo Clinic.

As good as it is, it seems that Appsoft Draw has some problems dealing with PostScript images, which can hang the application when saving or printing. The company rushed version 1.01 to fix the problem. Unfortunately, the update causes the cursor to disappear sporadically.

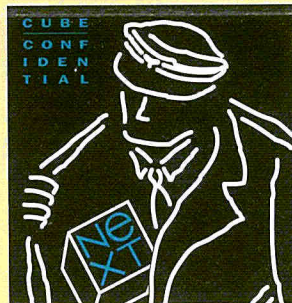
With the spate of 3-D front ends on the way, the demand for a NeXT-specific, full-featured modeling package remains unfulfilled. But not for long. Renaissance Software of Boulder, Colorado, will demonstrate its modeler, code-named Prototype, by year-end. Building on Renaissance's own geometric-modeling engine and NeXT's 3-D tool kit,

Prototype will accurately simulate real-world objects. The product also includes a number of innovative interface techniques that will allow nontechnical users to access the power of 3-D.

Sullivan was properly chastised by several readers for his insensitive remark in July about the inscrutability of a NeXT executive who had recently toured Asia. Thankfully, our top gun was too busy to make it to the Tailhook convention. Sometimes, living in two cultures can be hard to reconcile.

Don't make Sullivan send a U.N. inspection team to sit outside your building for two weeks. Just pass him your information and quietly accept in return the Lt. Sullivan T-shirt signed by Steve Jobs. Call Sully's voice mail at 415/978-3374 or, better yet, send e-mail to sullivan@next-world.com.

Lt. Sullivan



NeXTWORLD

NEWS IN BRIEF

Athena Design began offering its Mesa spreadsheet in September to students at a special discount price of \$99. The student version will include a full manual on floppy disk but not technical support. Versior 1.1 of Mesa, also released in September, will include full support for SQL database queries via NeXT's DBKit. Athena Design: 617/734-6372

Atherton Software Works changed its name to Millennium Software Labs, according to Jayson Adams, president and founder of the company that developed Engage. Millennium: 415/321-3720.

Black Adder Systems has begun shipping WarPlt, an image manipulation program for the NeXT. It is a specialized tool for nonlinear mesh transformation, rotation, shear, perspective, mirroring, and scale change. Series of transformations can be stored for animation effects. WarPlt costs \$219 and is shipping now. Black Adder: 612/436-5021.

pVisor, a 3-D molecular-visualization program, has the distinction of being the first program written in Russia for the NeXT. Developed by Talus Corporation and the Electronic and Computer Science Center of the Moscow Institute of Physics and Technology, the program lets you display any complex module on-screen and includes a fast renderer. Talus: 713/561-0700.

Addison-Wesley has published *Objective-C* by Lewis J. Pinson and Richard S. Wiener, a 313-page book that is the first to detail the implementation of Objective-C on a NeXT computer. The book discusses object-oriented problem solving using Objective-C, describes how programming is done on a NeXT computer, and compares the differences between [CONTINUED ON PAGE 12]

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NEWS BRIEF

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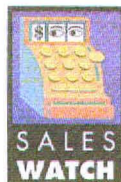
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NeXT nails big clients with hardware, '486



by ELIOT
BERGSON

NeXT got its foot in some very large corporate doors in September, closing sales with

Chrysler Financial, Mobil Sales and Supply Corporation, and McCaw Cellular. The deals represent both large hardware and NeXTSTEP '486 commitments.

Chrysler Financial, an automotive-financing subsidiary of Chrysler Corporation based in South-

[SEE SALES WATCH, PAGE 12]

Appsoft readies full line

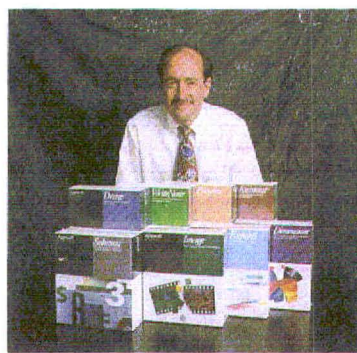
by DAN LAVIN

Redwood City, CA - Appsoft will compete in almost every major software product category in 1993, with plans to ship eight products by the end of the first quarter of 1993.

"Our goal is to provide the customer with a single source for all productivity apps," said Randy Adams, Appsoft president. The Appsoft application suite includes presentation graphics,

personal information managers (PIMs), and communications. Of the major categories, only databases and page-layout programs remain untouched by Appsoft's announcements.

Appsoft will stress the advantages of dealing with large vendors in its sales pitch, offering customer services such as an 800 number, special pricing, and bundle deals. The company said it is emphasizing



Appsoft is ready to roll out its line of productivity applications, said President Randy Adams.

integration across its entire product line, and has designed the programs with similar user interfaces, to promote ease of use.

The Appsoft product lineup, which will be available in special price bundles, includes:

• Presents. Due to ship next March for \$495, Presents is based on the Aldus Persuasion model for presentation packages and will include features like speak- [SEE APPSOFT, PAGE 11]

Poised to publish

by DAN RUBY

San Francisco - With little to show from its past efforts in publishing except arrows in its back, NeXT came to the Seybold conference here in September with a full quiver of third-party publishing solutions and a message that set it apart from the rest of the publishing pack.

The software arsenal included both full-featured, packaged applications and modular software objects, all carried under the banner of the NeXT Publishing Environment (NPE), which NeXT CEO Steve Jobs redefined in his keynote address as a strategy encompassing custom applications, shrinkwrapped software, extensible software, and modular objects. Jobs said that more than 100 developers are



Steve Jobs demonstrated a custom publishing application during his Seybold keynote address.

currently shipping or preparing NPE products.

Following Apple CEO John Sculley at the keynote session, Jobs declared that "the 1980s in desktop publishing were about shrinkwrapped software, human integration, and personal productivity. The 1990s are about software objects, automatic operation, and operational productivity."

To demonstrate, Jobs showed how NeXTSTEP tools such as Object Linking and DBKit could be combined with a shrinkwrapped program like RightBrain's PasteUp layout application to quickly create an ad-layout system customized for a travel agency.

"With its modular approach, NeXT is showing the direction publishing has to go. We've reached the point of diminishing returns with shrinkwrapped software. The [SEE SEYBOLD, PAGE 7]

More Seybold news

- Image processing apps explode
- Battle in 3-D
- SGI challenges NeXT
- RightBrain pulls surprise
- Product roundup

See stories, pages 6 and 7

3.0 bugs trouble developers



by SIMON L.
GARFINKEL

Cambridge, MA - Even though users are generally

satisfied with NeXTSTEP 3.0, developers are reporting a variety of bugs in the final version.

"PR2 was far more stable than 3.0 Gold," said one developer. "Obviously, they made some last-minute changes that they didn't take the time to verify."

NeXT acknowledged the bugs. "We are working to identify the most critical ones, so we can address them in the near

term," said Margaret Chan, manager of software product marketing. She said that NeXT has not yet decided how or when to take corrective action.

Users have reported problems with NeXT's new connectivity features, especially AppleShare networking support. Although new servers appear in the File Viewer when they come on-line, servers do not disappear when they shut down. Furthermore, files modified on the AppleShare servers do not immediately appear changed on the NeXT.

Large multizone AppleShare networks are especially troublesome. "We [SEE 3.0 BUGS, PAGE 12]

Our Apps Benefit From the Best Advice In the World:

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Format ▸	Make Suggestion...
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Before we sat down to develop Diagram!2, we took a very important first step. We listened. You see, all Lighthouse apps have a built-in suggestion panel, and we've been receiving user feedback ever since we first shipped Diagram!

So when it came time to think about new features and enhancements, we looked to the people who really knew our products best—you, our customers.

From process charts to dataflows, org charts to mission-critical custom app designs, you've been putting Diagram! through its paces. Through your suggestions, you've also been creating Diagram!2.

You asked for rotation, object and text rulers, finer label control, and even a file format readable by your custom applications. Diagram!2 will deliver all of that, and more of the power and flexibility which makes Diagram! the best-selling graphics app for NeXTSTEP.

For a limited time, Diagram! will be available for \$249 (a savings of \$80). Of course, upgrades will be available at a substantial discount to registered users. It's our way of saying thanks for all of your help. You did a great job.

Keep up the good work.

Diagram!2

The Power of Suggestion



NeXT
with i

by DAN R

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"For many t the desktop dec the server decisi relationships wi that manufactu can recommend and systems acro classes," said NeXT's director

The relatio three flavors: C development, a partnership. To General is a Ne enables the con NeXT equipme four companies tical developm ing agreements company adds development to products with I has a marketing NeXT through bers target cust fic client-serv

Each server own area of str UNIX-based N quick file acces: ge capacity in stallations. A will support e Xedoc NetInfo dition. Solbou compliant svmr

SIMSON00001330

NeXT sets server strategy with industry partnerships

by DAN RUBY

New York - NeXT holds this truth to be self-evident: It makes great client workstations, but a number of other companies make great servers.

Thus, the company came to UNIX Expo here in September with a declaration of server independence, backed up by two new technical and marketing agreements with makers of high-performance network servers - Auspex Systems and Solbourne Computer. Together with previous involving Data General, NCR/Teradata, and Pyramid Technology, NeXT's server strategy lets large NeXT sites choose the high-end server system that best suits their needs.

In a related development, Melbourne, Australia-based Xedoc (formerly Codex) Software Development announced a port of NeXT's network-management software, NetInfo, for SPARC servers, extending its existing product for SPARC clients (see "NeXT licenses NetInfo," *NeXTWORLD Extra*, June 1992). The server product will ship in the fourth quarter for \$2500 per server license.

"For many of our customers, the desktop decision comes before the server decision. Our business relationships with the companies that manufacture servers means we can recommend a variety of backend systems across a range of server classes," said Erna Arnesen, NeXT's director of channel sales.

The relationships come in three flavors: OEM, technical development, and marketing partnership. To date, only Data General is a NeXT OEM, which enables the company to resell NeXT equipment. The other four companies have both technical development and marketing agreements with NeXT. Each company adds some form of development to integrate its products with NeXT, and each has a marketing agreement with NeXT through which the partners target customers with specific client-server needs.

Each server company has its own area of strength. Auspex's UNIX-based NetServers provide quick file access and large storage capacity in departmental installations. Auspex announced it will support and co-market the Xedoc NetInfo SPARC Server Edition. Solbourne's SPARC-compliant symmetric multipro-

cessing (SMP) servers are optimized for compute-intensive database applications. The company announced an OEM agreement with Xedoc that will allow it to resell Xedoc client software.

Among the companies that previously announced agreements with NeXT, Data General makes SMP servers designed for high reliability and performance in database applications. Data General will do its own port of NetInfo for its AViiON servers. Teradata, acquired this year by NCR, specializes in enterprisewide information systems in banking, transportation, and other markets. It provides an adapter for NeXT's DBKit. Pyramid's MIServers provide extremely high performance for data-center applications. Pyramid will also port NetInfo.

Arnesen said more server relationships will be announced in the future. ☐

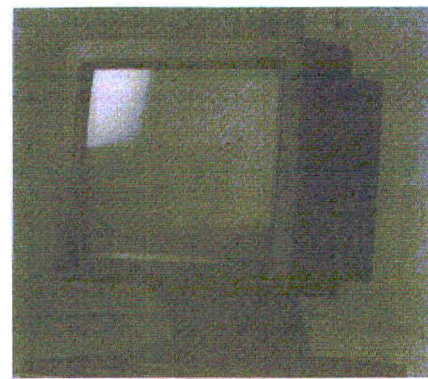
Color displays upgraded

by DAN LAVIN

Redwood City, CA - NeXT is continuing to quietly improve the quality of its monitors, keyboards, and mice across its product line. But despite earlier indications, most of the installed base will not be able to upgrade and take advantage of the changes.

The new ADB-compatible keyboard and mouse, originally slated to be a feature on only top-of-the-line Turbo Color systems, began shipping with all new machines - including monochrome systems - on October 1. In addition to ADB electronics, the new monochrome monitor (part #N4000B) will sport a new footprint and offer higher reliability. It will also be three pounds lighter.

NeXT started using a significantly higher-quality Sony Trinitron tube (part #N4006) for its 17-inch monitor with units that began shipping September 15.



With a Trinitron tube in its 17-inch color monitor, NeXT color systems now cost \$300 more.

The new monitor costs \$2295, which in effect raises the base price for color systems from \$8995 to \$9295. The Sony tube offers higher contrast, a flatter display, and compliance with NPR-2 regulations for ELF and VLF emissions. It also supports NeXT's new "rock-solid" 72-MHz scan rate standard

for all new color machines.

Despite earlier reports, it will not be possible for users of older color and monochrome systems to upgrade their machines to take advantage of the new ADB keyboard, mouse, and improved monitors, according to Wayne Goodrich, NeXT hardware product manager. ☐

3.0 Sound Kit extends NeXT lead in digital audio

by LEE SHERMAN

Redwood City, CA - NeXT has again taken a leadership role in digital audio with the release of the NeXTSTEP 3.0 version of the Sound Kit. Among the highlights of the new release is a new sound-compression format and

on-the-fly mixing of multiple sounds.

"You could be playing some music and have your printer 'out-of-paper' message come through," said Mike Minnick, a NeXT software engineer. Other possible applications include audio teleconferencing and games.

On-the-fly mixing will also allow sound-editing packages like Metaresearch's SoundWorks 3.0 to become more interactive. "You can hear the results of your changes to the mix in real time," said Andy Laird, author of the program.

Audio Transform Coding, or

ATC, allows for compression ratios up to 8-to-1, with some loss of information. It works by stripping out frequencies that humans can't hear, either because they are masked by neighboring frequencies or lie below a certain noise threshold. The so-called "lossy" compression formula is similar in concept to that being used for new recording technologies such as DCC and mini-disk, which have received mixed reviews from audio purists because they don't reproduce the entire audio spectrum, as a CD does.

"It's not quite hi-fi but the benefit is you can compress or expand the duration of a track without affecting the pitch," said Gordon Van Huizen of Metrossoft, author of the multitrack audio recorder, MetroTracks.

According to Laird, ATC allows you to work with sound in its compressed state, speeding up the editing process.

The new Sound Kit offers improved compatibility with the Music Kit, allowing users the chance to play sound files and perform DSP synthesis at the same time, something that wasn't possible with previous versions. A more efficient MIDI driver with support for MIDI Time Code, an industry-standard method of synchronizing musical performances with video, is also included. ☐

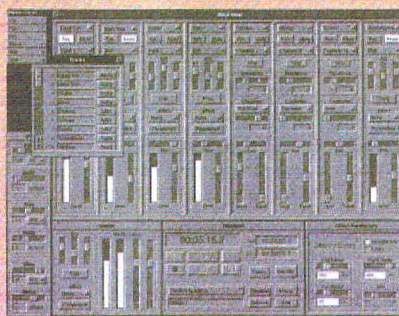
Third parties lead NeXT into audio market

by DAN RUBY

San Francisco - A partnership between two third parties is leading NeXT into the emerging market for digital audio recording. At the Audio Engineering Society convention here last month, Singular Solutions and Metrossoft showed an audio workstation capable of recording, mixing, and editing CD-quality sound and MIDI data.

A NeXTstation with Singular's A/D64x Audio Interface and Metrossoft's MetroTracks software sells for less than \$7900, considerably less than competitive systems based on other desktop systems, the companies said.

"Music is not a strategic market for NeXT, but it is an area in which we have a lot of advantages," said Rob Poor, a NeXT developer advocate who



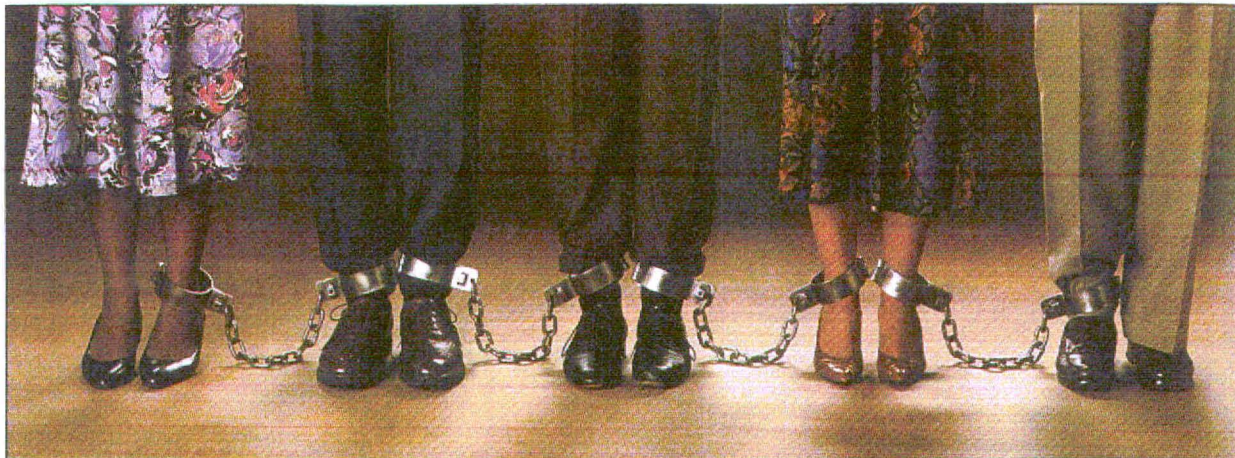
MetroTracks simulates an eight-track audio recorder. Digital effects such as reverb, chorus, and pitch shift can be applied.

appeared on a panel at the show. "It is a happy surprise that there is a strong developer community growing without direct support from NeXT."

The Singular Solutions product provides two channels of ultralinear analog-to-digital conversion at multiple sampling rates, and digital audio input and output.

MetroTracks is the software equivalent of a multitrack audio recorder. It provides functions such as punch-in, punch-out, and track dubbing, while a waveform window permits graphical and time-based editing.

Metrossoft can be reached at 619/488-9411; Singular Solutions is at 818/792-9567.



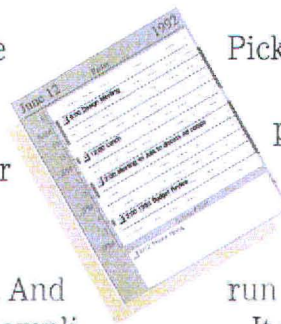
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RDR

by CONNIE

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RDR targets presentations

by CONNIE GUGLIEMO

Fairfax, VA - With the help of NeXTSTEP 3.0, RDR has put together a new presentation program called @image.

The \$399 program, scheduled

to ship in the first quarter of 1993, lets NeXT users create multipage, multimaster slide presentations. Features include speaker's notes, multiple master pages, slide sorting, and drawing tools, including lines, circles, and

boxes. Special page-number and date fields are provided, and standard image-format files can be dragged and dropped directly onto slides.

With a unique network-presentation feature, @image allows users to view a presentation locally or remotely, using NeXTSTEP 3.0's Object Linking. The presentation can be viewed full-screen or in a user-defined window.

NeXT users interested in participating in the beta review for the program, which began in mid-October, will receive a 30-percent discount off the retail price for the product.

RDR can be reached at 703/591-8713.

Radiant drives expand optical storage options

by ELIOT BERGSON

Denver - Radiant Technology introduced in October a line of optical disk (OD) drives that will give all users a speedy backup medium and original Cube owners the chance to come in from the cold.

Featuring drive mechanisms from different manufacturers - Pinnacle Micro, Maxtor, and Panasonic - Radiant's line offers storage capacities from 128MB up to 1GB. Access times on the drives start at 19ms, making them as fast as, or faster than, many hard drives. The SCSI devices offer data transfer rates from 500KB/sec to 1.36MB/sec.

"There are lots of apps on the NeXT that require a lot of memory - images, databases, sound - and people don't want to run

tape for backup because it's slow. Optical technology is unique in that it's fast and the life of a cartridge is longer than tape," said Steven Collins, sales director at Radiant.

Because NeXT's OD technology was neither fast nor reliable, original Cube owners have been waiting for OD technology to deliver on its promises. Radiant's drives should bring lots of archived data in the NeXT community back online and prove that ODs are a good backup medium, according to Collins.

Prices for the units will range from \$1495 for the 128MB Pinnacle to \$3395 for the MaxOptic 650MB/1GB dual-media drive. Other optical drive manufacturers for NeXT systems include Ten X Technology, Pinnacle, Contemporary Cybernetics, PLI, MicroNet, and Microtech International.

Prices slashed on ED floppies

Deerfield, IL - Toshiba America Electronic Components has dropped the price of its 4MB-unformatted, 2.88MB-capacity ED floppy disks so that the cost of one ED is less than half the price of two 1.44MB floppies.

Both Immac and NeXTConnection are charging about \$2.80 each for the disks, while 1.44MB disks cost about \$1.50 each.

Before the price change, the disks were a luxury that did not make economic sense, especially to third-party companies distributing software. "With this new pricing strategy, we'd consider moving to the 2.88's," said Ruthann Mackey, product manager at Lighthouse Design.

All NeXTstations are equipped with ED-capable floppy drives.

- DAN LAVIN

Programmers get graphics help from Display PostScript kit

by DAN LAVIN

Mountain View, CA - Adobe Systems shipped in September an upgrade to Version 1.1-6f its Display PostScript Software Developers Kit (SDK), a set of programs, tools, and reference materials for developers working with Display PostScript (DPS) on the NeXT.

Although many applications access the screen using standard subroutines and objects included with NeXTSTEP, any program that includes specialized graphics or text handling will be writing custom code in DPS. The SDK helps programmers understand

DPS and has software tools to help them debug and optimize their programs.

The heart of the SDK is Displaytalk 2.0, a programming tool that allows interactive development and source-level debugging of PostScript-language programs. Displaytalk also includes on-line manuals for PostScript Level 1 and Level 2, Display PostScript, and NeXT-specific PostScript language operators.

Also included in the SDK is the so-called *Adobe Purple Book*, *Programming the Display PostScript System with NeXTSTEP*; code samples from the book; and two font packages to help test text-manipulation routines.

"The programmer of any NeXT application that includes heavy imaging will benefit from the SDK," said Ken Fromm, principal author of the *Purple Book*.

The SDK costs \$250 for registered developers but is free to 1.0 users through the Adobe Developers Association.

NeXT color printer in bloom

by DAN LAVIN

Redwood City, CA - NeXT began shipping its NeXT Color Printer (NCP) in September, and early reports suggest that customers are satisfied with the product.

"I've been real happy with it," said Diane Webb, program manager for Commercial Information Systems at ESL, a Sunnyvale, California-based subsidiary of TRW.

Webb's group works closely with several government NeXT users, and between them they had used four \$10,000 QMS-100 color printers. Though they still use the QMS for overhead transparencies, the NCP has made it cost-efficient to use color on paper.

The key advantages of the NCP for Webb are the large print area, plain-paper capability, and the use of ink only for colored elements. These are critical concerns, because ESL documents are mostly text, with only a small amount of color needed for emphasis or illustration.

"We're printing a ton of stuff in color now, while with the QMS we didn't because of the special paper and huge toner requirements," said Webb. "We'll probably get a few more."

Wiley Hodges, marketing operations manager for Lighthouse Design, has had the opportunity to see NCPs in use in many different sites, since Lighthouse's Diagram and Concurrence users want to see their output in color. "Overall they are pleased with it," said Hodges. "Every one of our major customers has one."

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Taking advantage of NeXTSTEP 3.0

All NeXTSTEP applications run under 3.0, at least in theory, but so far only a few specifically take advantage of new 3.0 features. Based on circumlocutions overheard at Seybold, developers can't seem to agree on what to call programs that make use of NeXTSTEP 3.0:

"3.0-advantaged"
Larry Spelhaug, president of Pages Software, referring to Pages by Pages

"3.0-savvy"
Maughan Hogan, Altsys market-whiz, about Virtuoso

"3.0-happy" and "it just works"
Adam Swift, Stone Design programmer, about Create 3.0

And the official word from NeXT: "Release 3 enhanced."

- ELIOT BERGSON

SEYBOLD WRAP-UP

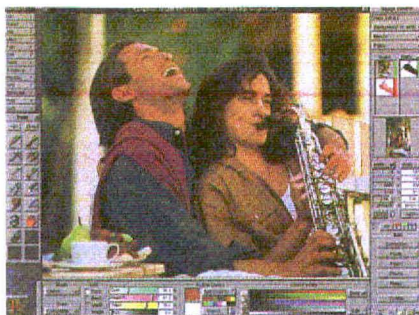
Image processing apps take off

by DAN LAVIN

San Francisco - A few months ago, there were no players in the image-processing category, but at the Seybold Conference in September no fewer than six developers announced products scheduled to ship by the end of the first quarter of 1993.

In the high-end market, 3K Computerbuild's Retouche will compete with Chromagrafx's PixelMaster, while Appsoft Image and Photosynthesis from RightBrain Software are expected to duke it out in the mid- to low-range segment. Compose in Color (CIC) from Unter Ecker Software and tms Software's 1Vision are still defining their markets.

The high end has traditionally been defined by dedicated systems, whose customers include service bureaus and prepress houses. Only the latest generations of workstation programs are beginning to challenge the dedicated machines in handling publication-quality images, which are often larger than 30MB. "The high end is a significant opportunity for NeXT because the Macintosh just cannot effectively process files this



Retouche, from 3K Computerbuild, built on a modular image engine, aims to bring group productivity and workflow management to the NeXT Publishing Environment.

large," said Julie Acosta, a NeXT publishing advocate.

3K's Retouche will ship in January for \$1200. Designed to accommodate a modular-software architecture, it can be customized with add-on tools. Chromagrafx PixelMaster, due in December, will cost less than \$500. It was described by a company spokesman as "Photoshop on steroids."

In the low end of the image-processing category, Appsoft Image, priced at \$995, will be the first to market in November. "We're showing a complete piece of software, while everyone else in our end of the market is showing user-interface shells," said Appsoft President Randy Adams,

referring to RightBrain's Photosynthesis, a rewrite of Media-Logic's Artisan product, which was shown in private demonstrations. Pricing and a release date for Photosynthesis have not been announced.

CIC 1.0 began shipping in August for \$900, with Version 1.1 slated to ship in October in Europe. A U.S. distributor has not yet been found, according to Oliver Ecker, CIC's author.

Although tms Cranach was not shown at Seybold, an earlier demo showed Cranach to be the image-processing module of tms's 1Vision publishing system. Pricing and availability for Cranach remained undetermined at press time. ☛

Third-party 3-D-ware adds depth to NeXT graphics

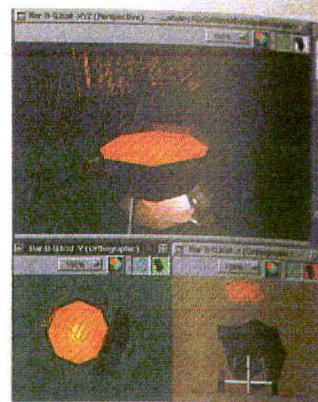
by LEE SHERMAN

San Francisco - NeXT-produced graphics will soon enter another dimension, thanks to several new 3-D modeling and rendering programs that build on the foundation laid by NeXTSTEP 3.0's 3DKit.

"The 3DKit provides a type of glue between the AppKit and RenderMan that really helped us to unleash its power," said Andrew Stone, founder of Stone Design, which planned to release 3D Reality in October. The program, to sell at an introductory price of \$99, is an intuitive front end to Pixar's RenderMan.

Frontface, a \$995 3-D modeler due by year's end, lets users drag and drop objects, cameras, colors, shaders, lights, 3-D text, or RenderMan RIB-formatted files directly into a scene, said nPoint President Kurt Stephens.

Italy's Gestel Italia has taken a modular approach to 3-D with solidThinking. Modules for modeling, rendering, and animating



Frontface from nPoint was among an explosion of 3-D programs shown at Seybold San Francisco.

will form the basis for a complete 3-D environment that will eventually support output to video and 3-D scanning. It also offers advanced features, such as morphing and lofting, not found in other packages.

Appsoft also has announced a modeler called Perspective for general business users. In an unusual move, Appsoft opened up its beta-test program, providing free copies of the Perspective beta to anyone who e-mails the company. At press time, CubX Systemes announced one more entry, Intuitive 3D. ☛

NeXT's ship comes in on wave of publishing products

San Francisco - For years, NeXT has exhibited at trade shows in a booth designed around "waves" of demonstration stations. At this year's Seybold show, there really was a wave of new (and in some cases, shipping) publishing products.

Page layout

Pages showed its document-processing application running under NeXTSTEP 3.0 and NeXTSTEP 486 in its own booth. Pages by Pages, including four design models, will sell for \$795 in Q1 of 1993.

Archetype introduced Stylist, a proof-of-concept app for its Document Engine technology. Stylist will ship with the DE in the first quarter of 1993 for \$795.

Frame Technology announced FrameBuilder for developing structured documents. The NeXT version of this multiplatform product will ship in the second quarter of 1993.

RightBrain demonstrated PasteUp in the NeXT booth.

Draw/Presentation/CAD

Create 3.0, from Stone Design for \$495, offers Wacom tablet support, multilevel undo, universal EPS use for pattern fills, an autotrace feature, and layering capabilities.

Graphisoft was expected to release Top-

CAD in October. Priced at \$1995, the 2-D CAD program offers all the selection, layering, and generation-modification tools found in the Mac version. A command and macro language will be added later.

Altsys Virtuoso shipped in October. The \$695 drawing program offers a full suite of drawing, layering, text-handling, and color-separation tools for single-page documents.

Lighthouse Design released Concurrence 1.1, an updated version of its \$995 presentation program that improves printing performance, especially with imported TIFF and EPS images; and the \$499 Diagram 2.0, which sports lots of new features: rotation, image cropping, easier label placement and tool selection, copying and pasting styles, more intuitive rulers, and infinite undo.

Multimedia/Music

MusicScribe, a music notation program from RightBrain, is expected to fill the gap left when Coda decided against releasing MusicProse.

PagetPress Electronic AppWrapper, the CD-ROM version of the popular catalog of goods and services for the NeXT, was shown. It goes beyond its printed counterpart to include working demos of many of the products included in the catalog.

Prepress/Scanners

Goldleaf began shipping eXTRASCAN, a \$450 driver for the high-speed Epson GT-8000 scanner, with other high-speed scanners to be supported soon; eXTRACOLOR, a \$995 color-correction and separation package available to any NeXT application through the Services menu; and eXTRACAL, \$2995 color-calibration hardware to allow correction of the NeXT monitor to any output device through eXTRACOLOR.

Varityper's Image Manager uses the NeXT as an image server in a Mac environment.

Canon showed its previously reported solution for using the NeXT as a front end for the Canon Laser Copier products.

Utilities

Bacchus's Image Agent lets users drag and drop non-native image files into graphics apps. The program transparently converts a host of formats, including those from PCs, Macs, and Sun workstations. Bacchus: 310/820-9145.

TypeDrawer, from Imaginer, lets users install fonts by dragging and dropping and manage font-family groupings and availability. Users can organize fonts by document or project, for example. Imaginer: 612/342-2442.

RightBrain tries October surprise

San Francisco - As October surprises go, it didn't have quite the impact of arms for hostages. Instead, RightBrain Software's sneak announcement of an image-processing application made only a slight ripple in NeXT's most glutted software category.

Photosynthesis is based on the image engine from MediaLogic's Artisan, an image-processing program for SPARC computers. Its tiling ability lets users manipulate large images quickly.

RightBrain showed the program privately at Seybold, along with a new music notation program, Music Scribe. The real October surprise, however, is the status of RightBrain's flagship product, PasteUp, which still was not shipping at press time.

- DAN ROBY

Seybold

challenge is to determine what percent of what we do, and that means Jonathan Seybold at the Seybold Conference.

While modular publishing may be the way of the future, the market also demands shrinkwrapped software. With programs like Virtuoso, Pages, and a slew of new in-house applications, NeXT is in most of the publishing suite.

But cracking the market with Macintosh remains a

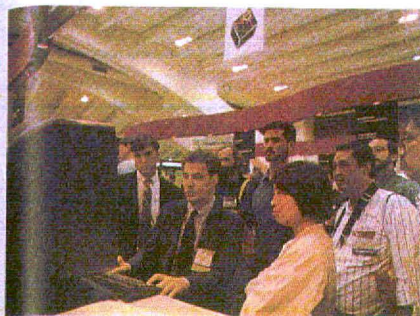
NeXT n as SGI,

by SIMSON L

Mountain View, Graphics (SGI) is the workstation publishing initiative that has long been high-performance display PostScript standard desktop applications.

Although Dis was once NeXT's desktop-publishing software side on machines such as DEC VAXs, IBMs, and SGI's high-performance systems said Illus was available for SGI and would early next year. SGI also co-developed XPress, a page-layout program available for SGI in 1993.

These announcements on SGI's part have current Mac users the same application using, but o



A full range of NeXT publishing products piqued interest among Seybold attendees.

Seybold [FROM PAGE 1] challenge is to deliver the last ten percent of what people need to do, and that means modularity," said Jonathan Seybold, publisher of the *Seybold Reports* and host of the conference.

While modularity may be the way of the future, however, the market also demands a complete shrinkwrapped software library. With programs such as Altsys Virtuoso, Pages by Pages, and a slew of new image-processing applications, NeXT has filled in most of the holes in its publishing suite.

But cracking a market dominated by Macintosh and Windows remains a formidable

obstacle. "The question for NeXT is no longer if it has the software. Now it is a question of market perception and psychology," Seybold said.

Some developers believe that publishing in the 1990s will focus more and more on hardware performance. "Personal computers have run out of power at the high end," said Lauren Flanagan, president of Goldleaf Publishing, which makes NeXT-based color-correction and calibration software. "Rather than replace Macintosh networks for publishing, NeXT will get its foot in the door as an engine for image processing and other compute-intensive applications."

NeXT may lose its advantage as SGI, Sun press publishing

by SIMSON L. GARFINKEL

Mountain View, CA - Silicon Graphics (SGI) is poised to seize the workstation desktop-publishing initiative with a combination that has long eluded NeXT: high-performance computing, Display PostScript, and industry-standard desktop-publishing applications.

Although Display PostScript was once NeXT's ace for the desktop-publishing market, the imaging software is now available on machines from competitors such as DEC, Sun Microsystems, IBM, and, since September, SGI's high-performance workstations. At the same time, Adobe Systems said Illustrator would be available for SGI this year, followed early next year by Photoshop. SGI also confirmed that QuarkXPress, a popular Macintosh page-layout program, will be available for SGI's IRIS Indigo in 1993.

These announcements lift the veil on SGI's publishing strategy: Give current Macintosh users the same applications they have been using, but on a workstation

that is two to five times faster.

"Our goal is to get the mainstream Macintosh applications that those people use to do 80 percent of their work," said Sue Egnoto, SGI's marketing manager for graphic arts and publishing. Mimicking NeXT's lead, SGI also plans full connectivity with Macintosh networks.

Sun Microsystems is also in hot pursuit of some UNIX publishing gold. While Sun's publishing presence has so far been confined to high-end turnkey systems and as servers in large installations, Altsys said this fall that Virtuoso was being ported to Sun's Open Look environment for release next year. At the same time, Adobe is working on ports of Photoshop and Illustrator, said Chris Hunt, a senior product marketing manager in Adobe's applications division.

The ports of Photoshop were done by SGI and Sun employees working on-site at Adobe, Hunt says. Adobe made the same offer to NeXT, but NeXT declined to provide engineering assistance.

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NeXT pitches open systems to Wang users left in lurch

by SIMSON L. GARFINKEL

Redwood City, CA - Hoping to bring users of Wang's proprietary VS mainframes into the world of open systems via NeXTstations, NeXT is making an aggressive play for the current Wang office-automation market. The plan is outlined in a confidential 26-page "Wang Selling Guide."

The key to NeXT's plans is Lightspeed, a file-conversion program that will let NeXTSTEP computers access files stored on Wang VS mainframes. Manufactured by Bakersfield, California-based Macsoft, Lightspeed will also let NeXT users emulate Wang 2110 terminals by logging onto Wang VS mainframes and directly running Wang applications.

"Lightspeed is available in character mode now for most of the UNIX platforms," said Ken Rosen, NeXT's manager of strategic markets. He added that a NeXTSTEP interface should be ready within a few months.

Using Lightspeed, Wang users translate documents from Wang's proprietary WP system into WordPerfect format. The documents would then be managed using a document-management system.

NeXT has already made inroads at five major Wang sites, said Rosen, each with 100 to 200 users.

Wang users have been in a quandary since Wang declared bankruptcy this summer. Once a leader of the office-automation market, with a mid-1980s annual revenue in excess of \$2 billion, Wang never delivered WYSIWYG word processing or open systems to its users, and sales dropped off dramatically in recent years.

Under the protection of Chapter 11, "they are reinventing themselves from a proprietary hardware company to an open-system integration company," said Rosen.

But Wang's user base - often regarded as one of the most technically sophisticated and demanding in the industry - isn't standing still. The annual U.S. Society of Wang Users conference, Technetron, has become a forum for Wang users to compare what they have with the best that the computer industry has to offer. The society has invited NeXT CEO Steve Jobs to present a keynote address in Boston in November.

"We're looking at open systems, and NeXT has a lot to offer in that area," said Bill Sturgeon, president of the user group. ■

Mail patent fight brewing

Tokyo - Toshiba Corporation filed a patent application describing an "electronic mail system capable of imbedding, delivering, and playing back sound files," claiming its invention dates back to April 24, 1981. If the claim is granted, NeXT and its Japanese partner, Canon, could be prevented from distributing NeXTmail in Japan.

Canon, which currently owns 17.9 percent of NeXT, has filed

an official objection to the claim with the Japanese patent office, according to Tom Lavelle, NeXT general counsel. He said that NeXT itself has not yet fully studied the Toshiba claims. Unlike the U.S. patent system, patents in Japan are published in order to give competing companies a chance to object before the patent is awarded.

- SIMSON L. GARFINKEL

NeXT to keep its numbers private

Redwood City, CA - NeXT will no longer disclose quarterly or annual sales results until it becomes a public company, a spokeswoman said.

Private companies are not required to report on revenues, but NeXT has routinely done so since 1991. The decision to reverse that policy came after NeXT delayed disclosing second-

quarter results for several months. Sources said that the Q2 numbers were lower than expected due to a sharp decline in European sales.

NeXT still expects to make a public offering of its stock sometime during 1993. It will then be required to make quarterly and annual reports of its sales and profitability. - DAN RUBY

NeXT exec door keeps revolving

by DAN LAVIN

Redwood City, CA - NeXT has continued its track record of hiring heavy hitters from the computer industry in its latest round of executive hiring. All major positions are now filled, except in the system software division, which is also losing one of its key employees.

William Parkhurst, one of the principal architects of NeXTSTEP and currently NeXTSTEP '486 director, will leave to start his own NeXT software company in Hawaii. Avi Tevastian will take charge of all NeXTSTEP ports. Steve Jobs remains as the acting head of the division.

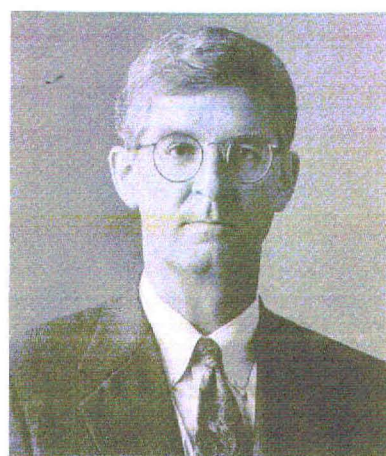
Tom Lavelle, 42, was named vice-president and general counsel as well as secretary of NeXT. Formerly group counsel for the components group at Intel, which includes all chip manufacturing, Lavelle's legal specialties include intellectual property law and securities work, key legal concerns for NeXT. He is also expert in anti-

trust litigation.

"I hope NeXT is in a position to have that problem someday," said Lavelle, who will serve on the pivotal policy team at NeXT.

Brent Bachman, 37, takes over as director of software marketing. For the last nine years, Bachman has been at Rational Systems, most recently as general manager of a group that helped customers building large systems based on custom applications, NeXT's current marketing focus.

"My mission is to help NeXT become more of a software company," said Bachman. "With the move into the '486 market, we



New vice-president, corporate secretary, and general counsel Tom Lavelle comes from Intel.

can realize more revenue from the tremendous added value of NeXTSTEP."

Also, Jon Rubenstein has been named vice-president of hardware engineering. ■



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Oracle

by DANIEL

San Francisco - Oracle database managers are taking an interest in NeXTSTEP. Oracle's appearance at the NeXTSTEP conference in September was a surprise. Though many Oracle users at the conference were only to catch a glimpse of the product, the interest in NeXTSTEP was evident. Mark E. Miller, an engineer at tele

Pencom

New York - Pencom has been raised with an upgrade to the X-Wind for NeXT.

Co-Xist 3.0, NeXTSTEP 3.0, Model 111R5, the current product. I speed gains of depending on the machine and machine

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Oracle users take a look at Jobs, NeXT

by DANIEL MILES KEHOE

San Francisco — Users of the Oracle database management system are taking an increasing interest in NeXTSTEP following a surprise appearance by NeXT CEO Steve Jobs at a meeting of the International Oracle Users Group here in September.

Though many of the 1500 Oracle users at a last-minute NeXTSTEP demonstration came only to catch a glimpse of Jobs, attendees left with an enthusiastic interest in NeXTSTEP.

Mark E. Mullison, a software engineer at telecommunications

giant Sprint, was impressed with what he saw. "NeXTSTEP blows your mind. People will see a computer as more than a way to run word processing or spreadsheets — instead it can be integral to their business activities, a way to automate business."

Mullison said he'd like to use NeXTSTEP, but couldn't buy it unless he knew "there was major management support" at Sprint.

Commodity futures trader Christopher M. Funk, president of a Lafayette, Indiana, firm, returned from the conference with an intent to call a NeXT dealer in Indianapolis. Funk's

firm has standardized on Macintosh and an SCO UNIX Oracle server, and at first he had little interest in NeXT computers, thinking they were merely alternatives to the Macintosh.

"In terms of custom applications, the NeXT merits looking at," said Funk. "Oracle is great for the data part of my business, but there's a need to interact with the data, and for that, Oracle hasn't provided much yet, except clerical stuff. I've bought every development tool for the Mac. I've looked and looked and I recognize something interesting when I see it. We have to get NeXTSTEP in and test it. Sometimes it takes hearing a good presentation to get something started." ♦

NeXT training to cover new ground in software group

by DAN LAVIN

Redwood City, CA — After two years as a part of NeXTedge, NeXT's after-market products organization, the NeXT training group has been moved into the company's software division.

While NeXTedge will continue to be the marketing and fulfillment organization for training that NeXT offers directly, the training group will now focus on curriculum development, creating alternative media and providing direct input to NeXT's software engineers. To help trainers spend more of their time working on these projects, NeXT said it plans

to authorize more third parties to offer training.

The popular Developer Camp, which is run by the training group, will be revamped in 1993, offering a Boot Camp for new NeXT developers, a core Developer Camp that concentrates on the niceties of NeXTSTEP, and advanced courses that address developers' specific interests, such as DBKit. Most of these courses will now be offered by third parties as well as NeXT. System-administration and end-user courses will be similarly revamped.

NeXT plans to get the word out on its technology in other ways, including a possible videotape series and interactive CD-ROM instruction.

Kathy Novak will oversee the training group, in addition to managing NeXT publications and documentation, including on-line help. "The main benefits for users will be that software engineers will get direct input from trainers who work with real customers, and trainers will get more say in the early development of products. This will make our products even more user-friendly and intuitive," Novak said. ♦

Pencom offers peaceful coexistence

New York — Peaceful coexistence has been raised to a new level with an upgrade of Pencom Software's X Window environment for NeXT.

Co-Xist 3.0 supports NeXTSTEP 3.0, Motif 1.2, and X11R5, the current versions of each product. It also provides speed gains of five to ten times, depending on the mode of operation and machine type, said Chris

Chauvin, product manager.

The program also offers a new "takeover mode," in which the user can allow X Window applications to take over the entire screen. In its standard "windows mode," the X Windows can now be repositioned as desired on the screen.

Pencom can be reached at 512/343-1111.

— DAN RUBY

Test challenges NeXT users

Are NeXT users really an intellectual breed apart? It's anyone's guess, but at least two researchers think NeXT users are among those worthy of a study designed to measure learning abilities.

Psychologists at the University of Virginia are asking users to participate in a psychometric test, called PsyLog, that measures changes in people's abilities and

knowledge over time. The test, which asks you to find patterns in series of letters and numbers, takes about 45 minutes to complete. Results are automatically e-mailed back to the project sponsors and kept confidential.

If you'd like to participate, contact Steven Boker at aha@kiptron.psyc.virginia.edu.

— CONNIE GUGLIELMO

Appsoft

[FROM PAGE 1]

notes, headers, footers and a suite of professionally designed templates. It is expected to compete head-on with Lighthouse Design's \$995 Concurrence.

• **Assistant.** Due to ship in January for \$295, Assistant is a combination of two products, Album and Dater, which were developed by 42 Software of Germany. Assistant is a PIM with an address book and calendar tied to the Appsoft Express mail program. It will have to compete in an already crowded product category with Sarrus Software's Pen-It-Me-In and Adamation's What's Happening.

• **Write 3.0.** The rewritten upgrade of WriteNow, the word-processing application that was previously bundled with each NeXT, will sell for \$495 starting in March 1993. Users who buy the \$199 Appsoft Write before the new release ships will receive a free upgrade to Version 3.0. Among the new features are import and export support for a wide range of file formats, using the licensed MasterSoft filter set in the code. Appsoft has also licensed the Stonehand text-processing engine and is using it as the core of the new program, which will compete directly with WordPerfect. Appsoft also

licensed Advanced Software's redlining technology.

• **Express.** Touted as a more powerful version of NeXTmail, Express is also slated to ship in March for \$99. It will include extensive data management, a message database, presorting of mail, an open API, integration with news readers, and automatic tracking of conversation threads, among other features.

• **Solution.** Slated to ship in January, this \$395 basic spreadsheet is based on the code for Powerstep purchased from now-defunct Ashton-Tate. It will boast a Microsoft Excel-like interface, file compatibility with Lotus 1-2-3 and Excel, and a robust macro language. It is expected to compete head on with Athena Design's Mesa and Informix's Wingz.

The products that the company has already announced include Draw, which is currently available for \$395; Image for \$995; and Perspective \$395 (see "Third-party 3-D-ware adds depth to NeXT graphics," page 6).

In other news, Appsoft has announced that Peter Karnig has left his position as General Manager of the company, and Mark Willhof has been hired for the newly created position of director of sales. ♦

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BRIEFS
Continued

NeXT's Objective-C and Stepstone Corporation's iteration.

Objective Partners, of Amsterdam, The Netherlands, has joined the NeXT Partnership Program of trainers and NeXTSTEP Developer Camp sites. A joint venture between Holland's biggest NeXTcenter and a system integrator, Objective will offer technical training, system administration, and NeXTSTEP development courses and support. Objective Partners is headquartered at 72Aan de Zoom, 1420 CB, Uithoorn, The Netherlands.

Young Minds has lowered the price of its Makedisc software for premastering CD-ROMs from \$7495 to \$2995. According to the company, this makes Makedisc the most cost-effective solution for preparing large amounts of data for distribution on CD-ROM. Makedisc is bundled with its CD Studio product, an \$18,250 piece of hardware that creates CD Write Once discs.

Yrrid is shipping its TTYDSP, a high-speed serial port that converts the DSP on the NeXT into a third RS-232 serial port that works with a wide range of RS-232 peripherals, including modems, printers and plotters. A single-user license is \$189. Yrrid: 800/443-0065; e-mail: yrrid@world.std.com.

CompuCover is now making flexible, clear plastic covers for NeXT keyboards. The covers protect the keyboard from dust and coffee spills, as well as making the keyboard quieter and softer to the touch. Ask for stock number 50NEX10. The special introductory price is \$16.95, plus shipping. CompuCover: 904/862-4448.

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Editor: Dan Ruby; Managing Editor: Connie Guglielmo; Associate Editor: Eliot Bergson; News Editor: Dan Lavin; Staff Writer: Simson L. Garfinkel; Layout Chief: Sue Troy

3.0 Bugs

[FROM PAGE 1]

just don't have the resources to test large networks," said one NeXT source, adding that due to inconsistencies within the AppleTalk protocol, large networks do not function the same way small networks do.

Sources inside NeXT said the decision to ship 3.0 in mid-September was a marketing one. In the rush to get 3.0 out the door, a conscious decision was made to fix bugs that would affect users. But many bugs that affect only developers were left in—especially bugs that had workarounds.

An added problem with 3.0 was the large amount of code that came from outside sources: Much of this code is written in C and tends to be more complex and bug-ridden than NeXTSTEP's Objective-C core.

While some developers have refused to upgrade their PR2 machines to 3.0, since code generated under PR2 will run on 3.0 systems, Objective Technology (OTI) is running 3.0. "The core of NeXTSTEP is more stable than it ever has been," said Eric Bergerson, OTI's managing director.

Sales Watch

[FROM PAGE 1]

field, Michigan, will purchase 2500 copies of NeXTSTEP '486. The company plans to use the OS in a client-server environment to support over 100 branch offices throughout North America.

When a mission-critical custom application for auto financing is put in place, dealers will be able to access up-to-date, comprehensive data to offer wholesale and retail customers more timely lease financing. The company also hopes to extend the custom system to fleet buyers, including rental-car companies.

Sources report that the operating system will be running on Goldstar hardware.

NeXT also signed a multiyear deal with Mobil Sales and Supply Corporation and Mobil Oil Corporation's Supply and Trading Division for 400 NeXTstations over the next 18 months. Installation and custom-software development will be overseen by mc² technologies, a Greenwich, Connecticut-based subsidiary of Phibro Energy, one of NeXT's biggest clients to date and a worldwide leader in oil trading.

Mobil plans to use the apps

Reported bugs in Release 3.0

Floppy-disk ejection

A bug with the workspace prevents floppy disks from being ejected when some Dock-extend programs are automatically launched from the user's dock. The solution: Launch the Dock extender manually, once the workspace starts up, rather than at login.

DOS and Mac file systems

Files stored on DOS- or Macin-

tosh-formatted floppy disks occasionally disappear or are inaccessible on DOS or Apple computers.

AppleShare

Doesn't work with large networks.

Mail attachments

Attachments stored in mailbox folders under Mail 2.0 sometimes disappear when viewed

Sullivan tries smart drinks at Stone's rave

With the political year finally winding down, things had never seemed worse at the Agency: BNL, BCCI, Iraqgate, Iran-contra, Justice, FBI, and CIA all pointing fingers at each other. It was enough to make the old-timers pine for the good old days of Central American wet jobs and LSD experiments. At least you know who the bad guys were.

Of course, as a Vietnam-era recruit, Lt. Sullivan had missed out on the glory days. Now it seemed you spent 90 percent of the time covering your ass. Except when you could break free to spend a couple of days among the NeXT cognoscenti.

Sully arrived at Seybold late, having hitched on a Navy flight into Alameda Air Station. In civilian clothes, he rode BART into the City, switched to a cab to the San Francisco Palace of Fine Arts, and arrived at The Stone Design 3-D Reality Party already in full swing.

Now here, thought Sullivan, was a place you could really operate. Andy Stone, celebrating the announcement of his 3-D modeling program, and John Perry Barlow, acknowledging his 45th birthday, were throwing a rave—spacey music, kinetic lights, virtual-reality theater, and amino-acid smart drinks. If you asked for Bob, Sullivan was told, you could relive those 50's CIA experiments.

The assortment of people was astonishing. He'd only been there a few minutes before Todd Rundgren was telling him where to buy rock 'n' roll glitter suits in Tokyo. Then software god Larry Tesler was tempting him with tidbits about Apple's Dylan project. Around Keith Oliffs's table (he had snuck in beer to the otherwise nonalcoholic event), a cluster of NeXT insiders were swapping tales.

NeXT seems to have miscalculated its conversion from original keyboards to the new ADB boards. Some installations that are not yet ready to upgrade to NeXTSTEP 3.0 are ready to buy more Turbo-class machines. Unfortunately, NeXT is all out of original keyboards and the ADB keyboards require 3.0. Unless of course, you don't mind a Portuguese keyboard. Another error last year by Theo Wegbrans, formerly of NeXT Europe, has NeXT sitting on a huge stock of Portuguese keyboards.

On the other hand, NeXT people were crowing about the steal they made by swapping software product marketing directors with Rational. There are high hopes for Brett Bachman, while Ron Lang will apparently not be missed.

Things seem to be getting testy on the ODBMS front. After endorsing Object Design as "the leaders in object storage technology" at Object World in July, Steve Jobs is quoted by competitor Versant saying, "I am pleased that Versant is the first production ODBMS available for NeXT." Foul, cries ODI. NeXT's endorsement of ObjectStore as the ODBMS of choice is part of the companies' formal agreement, ODI says.

Lots of interesting news on the customer front. The on-and-off-again J.P. Morgan deal may be back on. There are high hopes for a huge deal with Northern Telecom's operations in Seattle. And a big push is on in the pharmaceutical industry, with sales reportedly landed at Johnson & Johnson and Ciba-Geigy.

Lt. Sullivan



Steve's personal touch still matters. His old partner on Macintosh advertising, Jay Chiat, recently spent a few days at Steve's house. NeXT hardware may soon start showing up at Chiat/Day/Mojo's Madison Avenue offices. On the other hand, Steve was outright rude when introduced to the MIS chief from General Media, publisher of Penthouse and other sex magazines. Not his kind of customer, apparently.

Of course, Steve has been known to back down on his principles before, as illustrated by one hilarious story. A group of NeXT insiders in New York were chuckling about NeXT's success in law enforcement when the elevator they were riding in lurched to a sudden halt. After a half hour of banging and yelling, they finally climbed out and agreed not to make light of Steve's contradictions.

With that, Sullivan excused himself from the table to play around a bit with 3-D Reality, which was, after all, the occasion for the rave. Modeling solids on the screen, he could easily imagine the jocks in the Simulation Lab needing a dozen or so licenses.

On the way out, Sullivan congratulated Barlow on the evening, casually inquiring as to how Stone could afford such a blowout. "It's all those copies of DataPile that you boys in the government bought," he said with a twinkle in his eye. You've got to pay to play, Sullivan thought, as his cab pulled away.

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NEWS BRIEF

Lotus Development Corporation has announced a 2.0 version of Improv, but it will be available only on the Windows platform. "We're running this as a business. We'd perhaps have something to announce [for NeXT] if NeXT was doing better in the marketplace," said Jeff Anderholm, Improv marketing manager. The new product, available in the first quarter, will sport a new programming language called Script, some interface improvements, support for Excel 4.0 files, and a number of modifications for working together with other Lotus products under Windows.

NeXT has distributed a ten-page technical note, *Porting Your NeXTSTEP Application*, to help developers in porting their applications to NeXTSTEP '486. The big problem, it seems, is bit fields. NeXT is providing six functions for byte-swapping. NeXTSTEP will also now support eight-bit-deep grayscale displays. NeXT is also distributing several new mini-examples, all of which stress DBKit functionality.

Paul Lansky, the acclaimed new-music composer, has released "Homebrew," an album on Bridge Records, recorded entirely on the NeXT. Lansky finds music in everyday sounds like conversation, traffic noise, or two hands clapping. "Homebrew" was recorded digitally, direct to DAT (digital audio tape), using the public domain Cmix software; NeXT-based signal processing, mixing, and editing applications; and the Singular Solutions AD64/X sampler. Bridge Records can be reached at 1616/487-1662.

Tony Svensson, a six-time triathlete in the Hawaii Ironman Triathlon, has written and produced *The Total Triathlete Almanac* on his NeXT computer. [CONTINUED ON PAGE 8]

Dumping drives DRAM up

by SIMSON L. GARFINKEL

Prices for NeXTstation memory upgrades have increased by as much as 38 percent since October 21, the day the U.S. Department of Commerce announced its preliminary determination that Korean semiconductor manufacturers have been dumping DRAM chips on the U.S. market. New importation rules have led to the price increase.

The determination was made in response to a petition filed by Micron Technology, of Boise,

Idaho. Korean companies were selling DRAM chips below market prices in an effort to gain market share and force the two remaining U.S. suppliers of DRAM chips, Micron and Texas Instruments, from the market, said Kipp Bedard, Micron's vice-president of corporate communications.

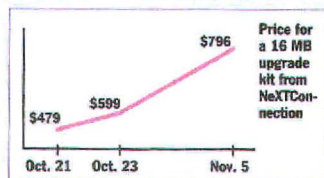
Korean companies account for 35 percent of the U.S. DRAM market, Bedard said.

"There has been no change in the supply, or in the number of people who are supplying

DRAMs," said Sherry Garber, an analyst with In-Star, an Arizona-based market-research firm. "In spite of that, spot prices have gone up."

For example, NeXT-Connection's price for a 16MB upgrade kit jumped from \$479 the day

DRAM prices soar



Price for a 16 MB upgrade kit from NeXT-Connection

NeXT plans 3.1 fix for buggy OS

by DAN LAVIN

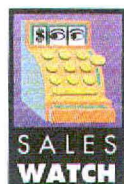
Redwood City, CA - Responding to the swarm of bugs found in Version 3.0 of its NeXTSTEP system software, NeXT has announced plans for Version 3.1 but does not expect to release it before the end of the year.

"We are planning to do a 3.1 release and are currently getting feedback from a lot of different channels. We will announce a schedule when its relatively close to being real," said Margaret Chan, manager of the NeXTSTEP and database interoperability group.

NeXT had hoped to avoid a major interim release because the effort will delay both the NeXTSTEP '486 project and the future release of System 4.0. Version 1.0 had a fix, 1.0a, while 2.0 was revised to both 2.1 for bugs and then 2.2 for Turbo compatibility. [SEE 3.1, PAGE 8]

Fannie Mae weighing '486

by SIMSON L. GARFINKEL



Washington, DC - Fannie Mae (Federal National Mortgage Association), the large-

est diversified financial institution in the United States, is evaluating NeXTSTEP for a number of projects, which could result in the company purchasing several hundred copies of NeXTSTEP '486 for internal use. But the real payoff for NeXT could be a showcase for NeXTSTEP and object-oriented technology throughout the financial industry.

"Fannie Mae is a funky company," said Andrew Weiss, vice-president of advanced technology. "We're one of the largest financial institutions in the world, but we operate with a very small staff. There's a lot of leverage. That leverage is generated through technology."

The company is now embark-

'486 goes to COMDEX; release schedule slips

by DAN LAVIN

Redwood City, CA - Although NeXT was preparing to make a splash in November at COMDEX, the PC community's big trade show, the port of NeXTSTEP to the Intel '486 platform has been delayed until at least the second quarter of 1993, according to sources.

Brett Bachman, director of software product marketing, confirmed that NeXTSTEP '486 would not ship as expected in the first quarter of 1993, but he would not commit to an official release schedule. "We're sorting out our options, and our objective is to get it out there as quickly as

'486 rollout slips

- Developer release due in Q1; will also be available to large corporate sites
- General release on hold until Q2
- General release to be based on NeXTSTEP 3.1

we're able to."

Despite the delay, NeXT planned to give its '486 implementation a high profile at the COMDEX show in Las Vegas. NeXT CEO Steve Jobs was slated to give a presentation, and machines running NeXTSTEP '486 were to be placed in several booths on the show floor, including the Dell booth, Epson booth the PC Week showcase booth, and the LAN Labs.

The delay in NeXTSTEP '486 is due to several factors, but most important is the state of the underlying 3.0 software (see "NeXT plans 3.1 fix for buggy OS"). The NeXTSTEP '486 version first shown at NeXTWORLD Expo in January 1992 was a version based on NeXTSTEP 2.0. But since NeXT is planning on having the [SEE '486, PAGE 8]

Clip and save anything with NoteBook

by DAN RUBY

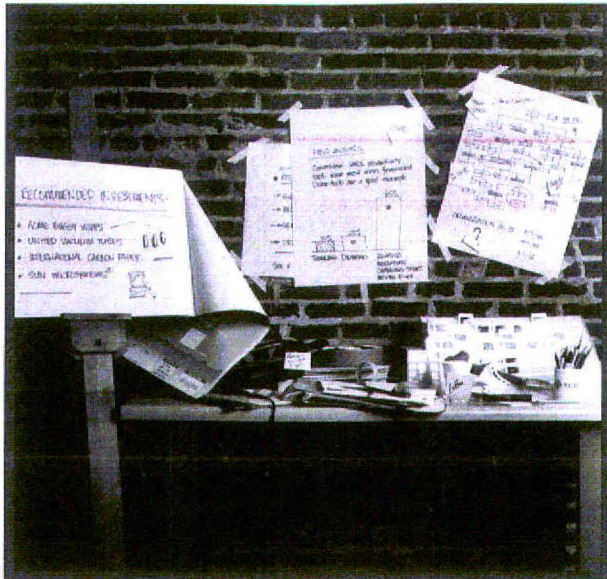
Menlo Park, CA - Take an outline processor, add dynamic indexing, package it with a notebook metaphor, and you have an innovative system for storing, organizing, and retrieving random information.

That's what Millennium Software Labs has done with its new NeXTSTEP information processor, called NoteBook. When it ships next year, NoteBook will offer a unique approach to man-

aging personal and group information. Millennium is the new name for Atherton Software Works, developer of the NeXTSTEP Dock extender Engage.

"Most collaborative software has been long on technology but short on social aspects of group interaction. NoteBook fits with the way people work," said Marc Gerstein, a principal with Delta Consulting Group in New York.

NoteBook grew out of company founder Jayson Adams's work on News- [SEE MILLENNIUM, PAGE 8]



Workstation productivity circa 1980



Workstation productivity circa 1992

Look, we've moved!

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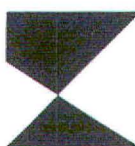
In the early 1980s, the world saw the first inklings of a revolution called *DESKTOP PRODUCTIVITY*. With it came *SOFTWARE* designed to replace the tools on your desk with tools for your computer. Finally, we were spared the frantic effort.

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Apps set sail for Margaritaville

by DAN RUBY

In the end, it came down to a race between RightBrain Software and Altsys Corporation to see which would ship its long-awaited publishing application first. With a friendly wager of a margarita hanging in the balance, RightBrain released its PasteUp page-layout program on October 27, while Altsys shipped Virtuoso, an illustration package, two days later.

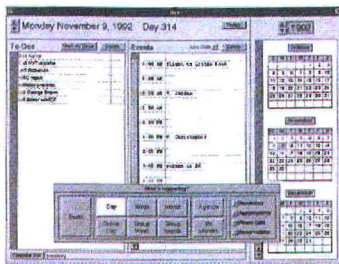
While it was RightBrain President Glenn Reid who won the free drink, both companies—as well as NeXT publishing users—had reason to celebrate. The \$795 PasteUp is a full-featured design and layout package providing sophisticated text-handling, drawing tools, and layout features. Virtuoso, which lists for \$695, combines powerful drawing, text, and production capabilities.

"These are the apps that kick off our first foray into graphic arts and design, a market that we couldn't address previously," said Julie Saffren, NeXT developer advocate.

Among the other shipping products in October:

- Adamation's What's Happening, \$295 per user, a networked scheduling application that combines extensive features for work-group calendar management. The program, which displays schedules in eight individual and group views, is built on top of server database technology.

- Image Agent, \$99 from Baccus, which converts graphics-file



Navigating through a calendar is easy with What's Happening's graphical display.

formats to support drag-and-drop display of non-native image files into graphics and illustration applications. The program allows image files from PCs, Macs, and Sun systems to be easily imported over a network into NeXTSTEP programs.

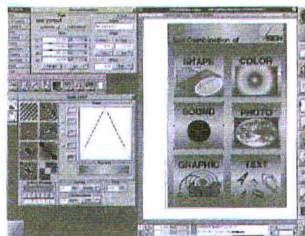
RightBrain: 415/326-2974. Altsys: 214/680-2060. Adamation: 510/452-5252. Baccus: 310/820-9145.

TMS offers vision for DTP

by ELIOT BERGSON

Regensburg, Germany—1VISION, a new, ambitious entry in the NeXT publishing field from tms GmbH, began shipping last month in Germany. An international release of the application, which has a suggested retail price of about \$3500, is due in 1993.

1VISION lets users incorporate data from traditional DTP sources, as well as from sound, video, and other multimedia inputs. Three programs, which can



1VISION allows users to incorporate nontraditional elements into DTP documents.

also be purchased separately as shrinkwrapped applications, lie at the heart of this "modular platform for electronic publishing": CRANACH image-manipulation software; LANSTON, a layout-and-design application that offers full object-oriented typographical control; and MANET, a vector-graphics and Bezier-point tool.

1VISION also includes tools for bar-code generation, print-parameter determination and calibration, and autotrace capabilities, as well as update services for one year. In addition, software drivers for the Montage FR2 film recorder and HP ScanJet IIc have just been introduced and are sold separately.

The company will offer the modules and tools in any combination. All modules are compatible with NeXTSTEP 3.0 and can be customized.

tms GmbH can be reached at Dr.-Gessler-Str. 10, 8400 Regensburg, Germany, or 49/941/951.63 (voice and fax) or admin@tms-gmbh.de.

Redwood City, CA—NeXT's new ADB (Apple Desktop Bus) keyboard is causing problems for some applications, according to developers and users. The programs appear to be a small minority of existing applications that use device-dependent keyboard character codes, which are different between NeXT's old and new keyboards.

"It's a mess," says Chris Chauvin, product manager for co-Xist, an X Window server sold by Pencom Software. Other affected programs include Executor, SoftPC, and WordPerfect.

"Three of the four programs, Executor, SoftPC, [and] co-Xist, are emulators that have to pass key codes to the programs running in their environments," said Clifford T. Matthews, president of Abacus Research and Develop-

ment, maker of Executor. "While it's true that NeXT has a portable interface to the keyboard, it only has a portable character-code interface, and not a portable key-code interface."

The current versions of co-Xist and WordPerfect have been updated. Insignia Solutions is offering a free patch for its current shipping version of Soft PC and plans to fold the upgrade into future versions of the program, said Sophia Jones, a technical-support representative. Likewise, Abacus has distributed a program that can patch current versions of Executor and HFS-XFer.

"It's a tough problem, given that the emulators want to be able to

directly deal with the keyboard," said Brett Bachman, NeXT's director of software product marketing. "Our primary strategy is to get the large body of applications—everything but the emulators—to work with the character interface instead of the key-code interface. Our experience has been that 99 percent of them already do that."

According to technical documentation, NeXTSTEP provides programmers with device-independent and "device-dependent" codes for when a key is depressed or released. NeXTSTEP 486 will likely present developers with a third set of device-dependent codes, upping the incentive for using the new codes in future applications.

Higher ed focus at Educom

Baltimore—NeXT's business customers have recently taken priority over higher-education computing managers, but the 3000 campus buyers who attended the annual EDUCOM conference in October still represent a big chunk of NeXT's revenue.

NeXT had faculty demonstrate NeXT-based curricula in their

booth, where it handed out more than 1000 copies of its NeXT Education Software Sampler CD-ROM.

"This year we focused on what is being done today on campuses rather than showing only future promises," said David Spitzler, NeXT's manager of higher education marketing. —DAN LAVIN

NeXT 3-D market expands

by LEE SHERMAN

Two new 3-D modelers, Intuitiv' 3D and Tesseract, have joined the rush of applications that take advantage of NeXTSTEP 3.0's DKit.

"3-D is an emerging technology that will mature into a solution over time," said Ronald Weissman, director of strategic markets for NeXT. "Those apps that best define solutions for customers will have the best chance of succeeding."

Intuitiv' 3D Professional, from Paris-based Cubix Systemes, is a NeXTSTEP version of a modeler already available on a variety of workstations.

To ship by year's end for \$500, Intuitiv' 3D includes the Intuitiv' 3D Engine and 3D

PostScript Font Module, along with a full modeler. The program hopes to establish the NeXT as a serious contender for preparing 3-D graphics and special effects for film and video.

A preliminary version of Tesseract, a 3-D modeler and animator from Relief Consulting and Development of Tacoma, Washington, shipped in October for an introductory price of \$229. A free upgrade to Version 1.0, which will sell for \$399, is due this month.

The software offers drag-and-drop shapes and light sources, as well as the capability to generate new shapes by extruding and rotating complex splines. A special feature of Tesseract lets you group various shapes to form new shapes that can be added to an expandable object palette.

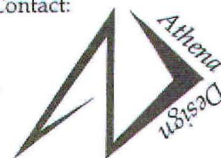
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by ELIOT

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New NeXTedge provider for European users, developers

by ELIOT BERGSON

Amsterdam, The Netherlands – Objective Partners (OP), a joint venture between Holland's largest NeXTcenter and a UNIX systems-integration firm, signed an agreement with NeXT Computer Europe in October to provide training for developers, NeXTcenter personnel, and end users.

OP joins partners in Switzerland, Sweden, Germany, Austria, France, and the United Kingdom in offering classes across the entire NeXT curriculum, including Developer Camp and NeXTSTEP 3.0 system administration.

"Our goal is to have business partners who have a commercial goal for doing training on NeXT," said Frans Vink, NeXT's European training coordinator. "This commercial goal gives the best training available, because for them it is a product and they try to sell it the best they can. This guarantees quality."

So far, partners have been very happy about the demand for NeXT training, Vink said. NeXT has sought partners in the different countries to teach courses in the local languages. "We

used to want trainers who spoke three or four languages but it was impossible. They aren't available in high numbers, and that led to a very centralized situation in NeXT Europe," Vink said.

That, along with localization issues for software and the differences in culture, made the centralized training effort a bad strategy, Vink explained. "We have to know that in Sweden, for example, one reseller will accept that another reseller does training. They will continue to cooperate with each other. In France, that is not possible."

As they have done at other centers, trainers from NeXT Europe will coteach courses until OP's staff is fully qualified to offer the course independently. The integration firm already provides consulting, system-integration, custom-application development, and software products for NeXT customers in industries as diverse as finance, telecommunications, insurance, manufacturing, and government.

OP will offer classes at its new state-of-the-art training facility in nearby Uithoorn or at customer sites, as the need arises. ♦

NeXT realigns marketing

by DAN LAVIN

Redwood City, CA – Following the October departure of Vice President of Marketing Mike Slade, NeXT reorganized its marketing organization.

Product marketing functions have been moved into the individual product groups in an effort to create tighter coordination between marketing's product specifications and the development teams.

Brett Bachman, director of software product marketing, has moved with his group into the software product division, while hardware product marketing, under the direction of acting manager Ken Joachims, is now part of NeXT's hardware division. Vertical markets, event planning, and corporate communications remain within the corporate marketing department.

NeXT is recruiting for the positions of vice-president of corporate marketing and director of hardware product marketing (see the sidebar, "Top jobs still vacant at NeXT").

Slade, who had been at NeXT since May 1991, is best known for building a unified marketing strategy around mission-critical custom applications. He leaves to be vice-president of special projects for Paul Allen's personal staff, where he will direct strategic planning for the Microsoft co-founder's extensive high-tech in-

vestments.

Bachman has already reorganized software marketing into five key product areas: NeXTSTEP and database interoperability, NeXTSTEP '486, development environments, groupware and workgroup productivity applications, and international.

In other reorg news:

- Third party advocates with the exception of Tim Kreps in Networking and Rob Poor in Developer Tools move to the software product division under Director Donna Simonides.

- Developer support moves to the software product division under Director Ken Spitznagel.

- Corporate marketing is being

Three-part harmony

NeXT marketing divided by function



Corporate	Hardware Division	Software Division
Vertical markets Sales programs Marcom	Hardware product marketing	Software product marketing

temporarily overseen by Todd Rulon-Miller, vice-president of North American sales.

- Ron Weissman, director of vertical markets, will continue to manage vertical markets.

- Julie Welch, director of marketing programs, will now oversee corporate communications and events, in addition to sales programs. ♦

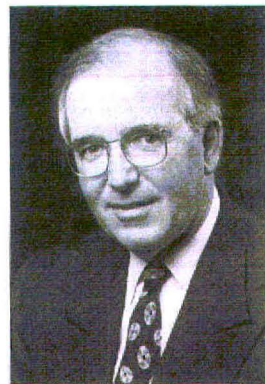
Pencom nabs top exec

by DAN RUBY

Austin, TX – W. Frank King, the former head of development for Lotus Development and IBM's personal computer division, was named president of Pencom Software, the fast-growing open-systems services company.

Among its various specialties, Pencom is an important NeXTedge service provider and NeXTSTEP software developer. King, the company adds an industry veteran who has played a leading role in the evolution of distributed computing. While at IBM in 1987, he helped negotiate an agreement with NeXT to port NeXTSTEP to the RS/6000. He also presided over the development of Lotus Improv.

"We thought NeXTSTEP would be the leading application development environment. In my judgment, that view turned out to be correct," King said. "It happens that NeXTSTEP is the environment I use on my desk every day."



Pencom President Frank King has long ties with NeXT.

King said he would focus Pencom's business on operating-systems integration, advanced input/output, downsizing, and distributed-transaction processing. By targeting the open-systems UNIX market, Pencoms hopes to help customers exploit emerging technologies. ♦

Doors open to NeXTmail

San Francisco – Soon you'll be able to send NeXTmail, complete with Rich Text and attachments, to users on other UNIX systems and personal computers.

NeXT and The Boston Software Works (BSW) will port BSW's InterOFFICE Message Exchange software to NeXTSTEP. The software will transparently connect NeXTmail with mail systems running on PCs, workstations, and mainframes.

"Our customers use their NeXT systems in computing environments with a variety of e-mail systems. BSW's product will allow them to integrate NeXTmail with other systems," said NeXT President Peter van Cuylenburg.

Site licenses for the BSW software are \$12,500. Availability will be announced in early 1993. ♦

Top jobs still vacant at NeXT

by DAN LAVIN

The recent marketing reorganization highlights the number of senior positions unfilled at NeXT, some of which have remained open for as long as eight months.

Most prominent is the position of vice-president and general manager of the newly created software products division. NeXT CEO Steve Jobs has been personally managing the division since Bud Tribble's departure in June.

It has not been unusual for NeXT to take a long time to fill its senior positions, with long courtships and interview processes the norm in the company's quest for the perfect candi-

date. Former Vice President Mike Slade and NeXT President Peter van Cuylenburg both were interviewed and wooed for more than a year before their first day on the job.

Both the software position and the vice-president of corporate marketing slot vacated by Slade in October have seats on NeXT's decision making policy board.

NeXT has also been recruiting candidates to replace Curtis Sasaki in the hardware product marketing group since he left to join General Magic in March of this year. Ken Joachims has been acting as manager of hardware marketing in the hardware division until a director is found. ♦

Tutoring tomorrow's traders

Pittsburgh – NeXT is among a group of companies sponsoring a new program for Carnegie Mellon University graduate business students designed to teach the fundamentals of international finance and trading.

The cornerstone of the Financial Analysis and Security Trading (FAST) program is the trading room, where students work with the latest technology and

access real-time data from Wall Street and industry-information networks.

According to program creators Professors John O'Brien and Sanjay Srivastava, FAST is "like a flight simulator," allowing business students to do anything a Wall Street trader can do. The only difference is that the earnings and losses are simulated too."

— CONNIE GUGLIELMO

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by ELIOT

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Users debate DBKit problems

by ELIOT BERGSON

Redwood City, CA - Trying to address the concerns of major customers who have reported significant problems with NeXTSTEP 3.0's innovative DBKit, NeXT called together important users and developers for a meeting here November 13. The meeting also dealt with issues regarding the future release of NeXTSTEP 4.0.

According to sources, representatives from UBS Securities, the William Morris Agency, United Parcel Service, Phibro Energy, Williams Telecommunications, First National Bank of Chicago, Objective Technologies, and strategic independent developers met to let NeXT know about real-life experiences with the troubled development kit. The agenda covered important aspects of database

adapters, interfaces, and modeling.

"There are some bugs that people have found, but for the most part nothing that doesn't have a workaround," said Margaret Chan, manager of software product marketing. Chan said NeXT is already working on an updated version of the OS, which will include changes to DBKit formulated from the meeting and other customer feedback (see "NeXT plans 3.1 fix for buggy OS").

Developers have encountered problems populating empty databases; inserting records into database record lists; formatting in DBTableView; creating compound keys in DBModeler; performing joins; connecting to buttons, switches and browsers; and memory allocation.

One source said that developers are probably going along with

the process because NeXT is attempting something very difficult: placing "an abstract layer over disparate data types." It's a "hard thing to get your arms around," another developer acknowledged.

He added that these issues may disappear with a new file system planned for NeXTSTEP 4.0. "Now that NeXT has adopted the ODI [Objective Design object-oriented database] standard," he said, "you have to believe [DBKit] will go farther and farther and deeper and deeper. 4.0 will give NeXT 18 months of experience."

That may leave some developers waiting. "Long-term issues have been discussed, but we can't turn them around overnight," said Chan, adding that NeXT's strategy centered around "short-term bug fixes, medium-range iteration changes, and long-term 4.0 concerns."

Third parties have been filling the need for adapters for some time; PenUltimate joined the crowd in October with DBConnect for Ingres. One financial developer said he sees a day when companies could possibly trade adapters to the kit, "especially if it cuts development time."

But not all developers want to wait. "[The kit] has lots of it-just-don't-work stuff. I get the feeling DBKit is a research project and NeXT has gotten a lot of people to participate," one source said.

Questor puts new spin on traditional spreadsheets

by LEE SHERMAN

Stockholm, Sweden - Add another program to the list of spreadsheets for the NeXT. Questor, a conventional matrix-based spreadsheet along the lines of Microsoft Excel and Lotus 1-2-3, is due from Xanthus International in March.

Named for the ancient Roman official most concerned with financial administration, Questor can both import files and run macros from Lotus 1-2-3. Other features include in-line cell editing, a full scripting language, and Object Links to other applications.

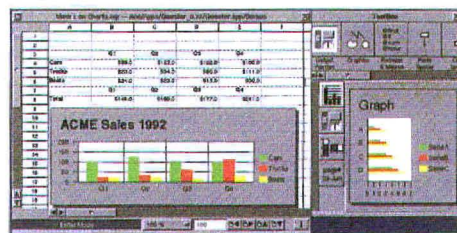
Where Improv took advantage of the NeXT platform to deliver a new paradigm for financial analysis, Questor, which will sell for \$595, uses NeXTSTEP to bring unprecedented program-

ming and linking capabilities to the familiar model.

"They took an object-oriented paradigm and extended it to make a spreadsheet tool that works the way the other spreadsheets do," said Ronald Weissman, director of strategic markets for NeXT.

Questor will go head to head with Athena Design's Mesa, Informix's Wingz, and Appsoft Solution in the emerging market for traditional spreadsheets on the NeXT.

Other new products introduced by Xanthus include Graphity, a \$495 charting and business-graphics application that can be used with Questor or as a stand-alone application; and Split-Builder/Receiver, a \$95 application that allows large files to be split into several parts and re-assembled on the other end.



Questor provides a full scripting language and can run Lotus 1-2-3 macros.

RAM

[FROM PAGE 1]

before the announcement to \$599 on October 23. By November 5, the price for the same upgrade was \$796.

"There is nothing that merits that kind of increase," said Garber. "There has been no change in the supply." Garber blames most of the price increases on the "secondary tier" of the chip marketplace - companies that sell to outlets like NeXTConnection.

In early November, a caller to NeXTConnection, asking for the reason behind the price increase, was told that "the federal government has imposed a tariff on imports, and essentially prices have doubled."

But according to a Commerce Department statement, no fines or tariffs have been imposed. "As

a result of the preliminary finding, the U.S. Customs Service will require a cash deposit or bond equal to the estimated weighted-average dumping margin on DRAMs from the Republic of Korea," the statement said. A final determination is not expected until March 1993.

Because of this, chip prices - which sometimes fluctuate more than some stocks - are up again. As a result, Garber expects that companies will be more hesitant about purchasing memory. That could make upgrades to NeXTSTEP 3.0 more painful and costly for NeXT users, since the new operating system requires a minimum of four additional megabytes of DRAM for performance similar to that achieved with NeXTSTEP 2.1.

Fannie Mae

[FROM PAGE 1]

embracing object-oriented [programming] for analysis, design, and implementation," said Weiss, adding that NeXT's software advantage was undercut by its dependence upon proprietary hardware. For that reason, Weiss is strongly considering NeXTSTEP '486.

The '486 implementation makes sure we have alternatives - that we aren't perceived as locking people into anything."

Weiss is evaluating other '486 operating systems, although with less enthusiasm. "We're not prototyping anything real on [Windows] NT or Solaris, although we are doing some prototypes in a vendor-neutral UNIX environment."

Fannie Mae has roughly 2000 "Intel-based workstations" - generally '386 or '486 computers running DOS or Windows - and

another 300 "UNIX-based workstations," Weiss said. Between 800 and 1000 computers are replaced each year to keep up with new technology.

Last month, InfoWorld columnist Robert Cringely reported that Sun Microsystems' President Scott McNealy had made a personal visit to Fannie Mae's Washington headquarters to sell them on Sun's Solaris 2.0 operating system for '486 computers. Instead, Cringely stated, Fannie Mae had decided to go with NeXTSTEP.

Fannie Mae buys or insures mortgages from banks and other lenders and resells them as securities. The company manages \$500 billion in mortgages - approximately one-seventh of the home mortgages in the United States, said Weiss.

The advertisement features a dramatic 3D rendering of a hand emerging from a dark, textured surface, holding a glowing, multi-colored sphere. The text "The Ultimate 3D Modeler" is written in a stylized, glowing font at the top. Below the hand, the word "REALITY" is written in large, bold, block letters. At the bottom, the company name "STONE DESIGN" is displayed in a bold, sans-serif font, followed by the phone number "(505) 345-4800" and the email address "info@stone.com".

BRIEFS
Continued

using FrameMaker. The 164-page training guide sells for \$16.95 and includes charts, illustrations, and training templates. Contact the Trimarket Company at 800/444-2524, ext.185.

NeXT has made available an RTFD document containing a brief description and work-around for a 3.0 workspace bug affecting the Eject option in the Disk menu. It is available via anonymous FTP at NeXT.COM (129.18.1.2) in the /pub/Binaries directory as DiskEjectFix.compressed. It will uncompress into an RTFD document that includes the executable program and a description of how to install it.

Intuitive Edge shipped NEM, the Numbered Extension Manager NEM last month, a \$29 object for NeXTSTEP that lets users assign a unique number to directories. NEM offers an easy way for users to create unique filenames - all users have to do is include the directory number anywhere in the filename - and a quick way to search for files within numbered directories. NEM is available from Intuitive Edge. E-mail: NEM@IntuitiveEdge.com; or 614/299-2781.

Highland Digital, a NeXT VAR, is doing its bit to promote NeXTSTEP 3.0. The company last month began sponsoring Boot Camp, a free 3.0 upgrade service at its facility in Palo Alto, California. Highland will give users access to the hardware and media to enable them to upgrade their systems. Users must have a proof of purchase for the 3.0 upgrade, and the offer is limited to one system per customer. Contact Highland for an appointment at 415/493-8550.

NeXTWORLD Extra is a supplement of NeXTWORLD magazine. It is published monthly by Integrated Media, a subsidiary of IDG Communications, 501 Second St., San Francisco, CA 94107, and is distributed free to subscribers of NeXTWORLD. Lt. Sullivan's column and articles about unannounced NeXT products are reported and written by contributors without guidance from the NeXTWORLD staff.

Editor: Dan Ruby; Managing Editor: Connie Guglielmo; Associate Editor: Eliot Bergson; News Editor: Dan Lavini; Technical Editor: Simon L. Garfinkel; Layout Chief: Sue Troy; Layout: Beth Kamoroff

'486

[FROM PAGE 1]

'486 version share about 95 percent of the same code as 3.0, "our production release will be based on some sort of fixed 3.0," said Bachman.

Not all Intel users will have to wait until the second quarter for NeXTSTEP. Bachman said that there will be a strategic-developer release of NeXTSTEP '486 in the first quarter of 1993. The release should enable developers to port their applications, so there will be software available at the time of the general release. Large corporate sites will also receive the early release to get a jump on custom-application development.

NeXT developers expect to take advantage of the extra time to broaden the range of devices that will work with the new software. While many '486 PC owners will be able to simply load and run NeXTSTEP, separate device drivers will need to be written for the many input devices, output devices, and video standards supported in the PC arena. In general, the more devices an operating system supports, the better, though it is unclear what specific requirements '486 customers will have. NeXT will also enhance the '486 implementation's built-in support for DOS and Windows.

3.1

[FROM PAGE 1]

Many developers have been affected by the bugs in 3.0, but workarounds have been found for all major flaws to date, according to Chan. As a general rule, NeXT is not planning to distribute patches in advance of the 3.1 release.

While a "majority" of users have upgraded to 3.0, according to Chan, many large corporate customers have decided to go slowly. "We haven't converted to 3.0

yet. Generally, we wait to see how any new software release from any company shakes out before installing it," said Vinnie Annuziata, president of Greenwich, Connecticut-based mc² Technologies, a spinoff of energy giant Phibro Energy.

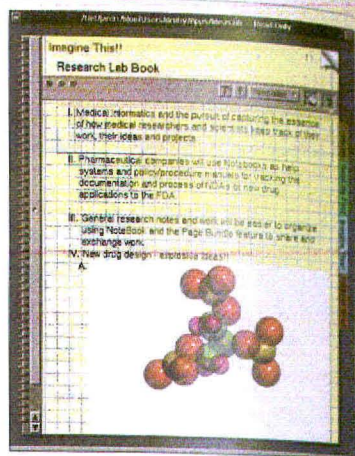
According to NeXT, 3.1 will undergo beta testing before being shipped. The company has not decided whether or not it will charge for the improved new release.

Millennium [FROM PAGE 1]

Explorer, a program for clipping news articles and e-mail messages that was shown last year at NeXTWORLD Expo but never released.

NoteBook's interface is modeled on a spiral notebook, with tabs, indexes, and animated turning pages. Information is organized in outline form, and the program offers all the usual features of outline processors. But unlike other outliners, every cell of information is actively indexed by eight attributes. Users can instantly recall information from a notebook by text, date, date changed, priority, or other characteristic.

Millennium expects that users will create notebooks to manage e-mail and fax clippings, group-project information, notes, and strategic intelligence. While it provides to-do and address-book functions, NoteBook is not intended to compete with dedicated calendar or Rolodex-like programs.



NoteBook's dynamic indexing permits easy retrieval of random data.

"NoteBook is for anyone looking to enhance and enrich the information they work with every day," said Scott Love, the former NeXT developer advocate who is now Millennium's president.

While the first release of NoteBook does not support multiuser access, sections of notebooks can be packaged in a "page bundle" for sharing with other users.

Millennium can be reached at 415/321-3720.

A light in the National Reconnaissance Office

Few people may have noticed it in the pre-election hubbub, but there it was clear as day in the New York Times on November 3: a full-page write-up on the previously little-known National Reconnaissance Office, complete with a NeXTstation Turbo in the photograph of director Martin Faga's Pentagon office.

As America went to the polls, Lt. Sullivan's active mailbox was filling up fast. Half the messages were people in the Agency aghast that Director Gates's call for openness had so quickly come to this. The other half were friends in the NeXT community expressing pleasure that James Woolsey's interagency report had opened the door to wider use of the NRO's fabulous imaging technology.

The next day, with President-elect Clinton in seclusion in Little Rock, the irrevocability of the change began to set in. Gates was sending word that he would soon announce his retirement, and the buzz around the corridors was that Woolsey himself might be in line for DCI.

There seemed little doubt that the \$6 billion NRO, with its KH-11 and LaCrosse reconnaissance satellites and unparalleled computer-imaging capability, was about to be laid open to the glare of public scrutiny. Its traditional secret mission could no longer justify unlimited budgets. Its services would need to be shared with other government and commercial experts: mapmakers, climate experts, environmental planners, and narcotics agents. That's what Woolsey's report had called for and now the fox was going to run the henhouse.

Other administrations have come and gone. This time things might never be the same.

Lasnost at the Agency could only be good for NeXT. Already it was coming off its best-ever quarter, with a mere loss of \$2.2 million. Hopes were high that December would actually close in the black. Abbott Labs, the huge pharmaceutical conglomerate, was close to a deal for the largest NeXTSTEP installation to date, eclipsing the 2500-unit order by Chrysler Financial.

Driving the big numbers, of course, is NeXTSTEP '486, which was set to come further into the open during Steve Jobs's COMDEX address. An engineering team from Insignia Solutions worked on-site in

Redwood City helping Steve's people put together a killer demo of off-the-shelf Windows apps running at native speeds under NeXTSTEP '486.

On the black-hardware side, SoftPC 3.0 looks even better on the zippy '040 that NeXT has been sitting on the past few months. The slightly higher clock speed may not be all that significant, but its oversized on-board instruction cache fits SoftPC's algorithm like a hand in a glove. Very fast and sexy - at least as sexy as Windows 3.1 ever gets.

With the recent focus on software, NeXT's hardware division has been little heard from. Now, with Sun and HP throwing down the gauntlet, the pressure is on. NeXT's RISC workstation has long been an open secret; the real secret was the fate of the Motorola 88000 processor. The answer is that it's history and a new chip set is confirmed. Which chip it is Sullivan is not yet prepared to say. There are still some limits to glasnost.

Lt. Sullivan

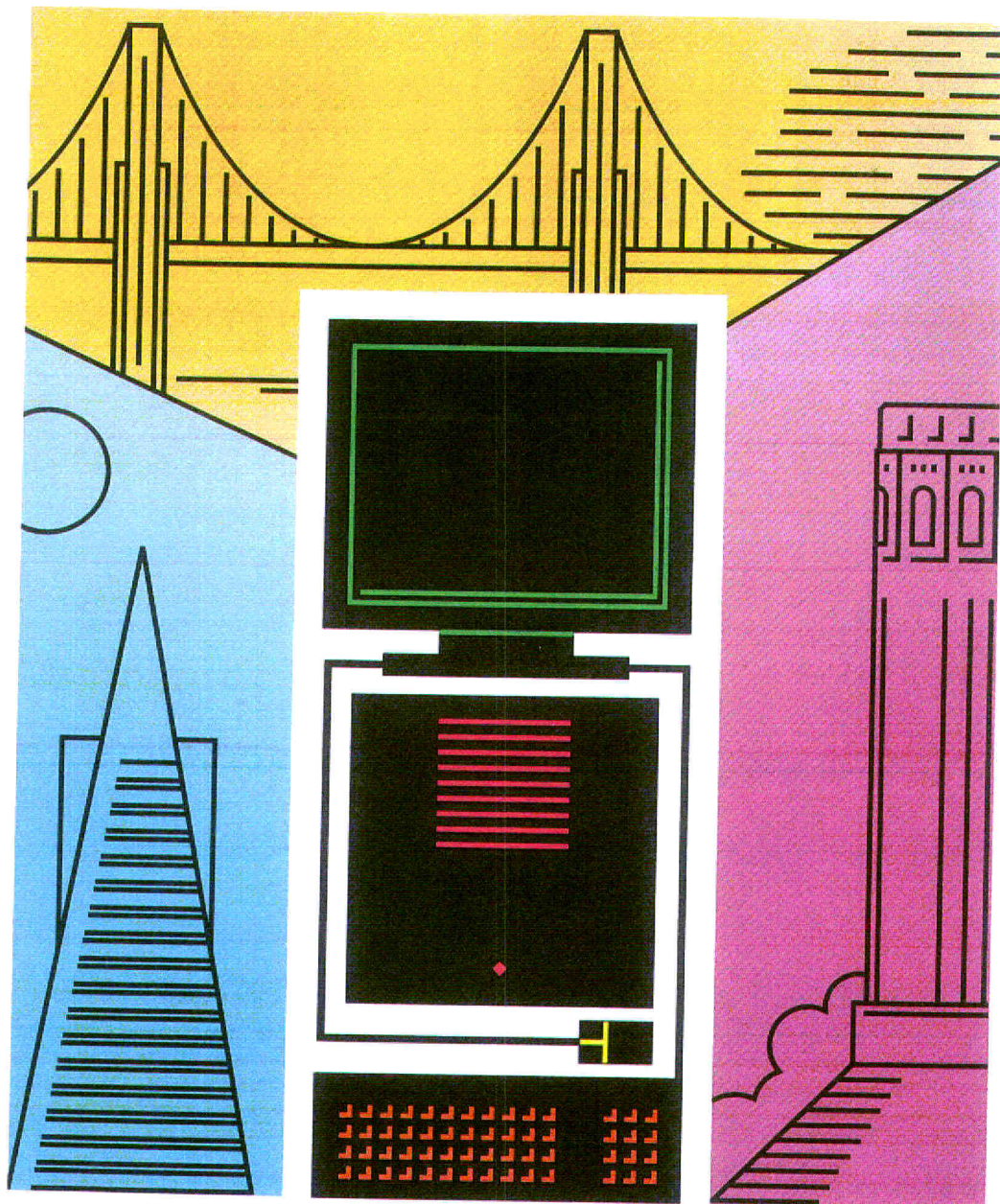


Thinking of hardware and software, Sullivan paused to consider NeXT's dilemma in choosing which side of its business to emphasize. If it is a software company that makes reference hardware, as Steve has stated, then its business model needs to reflect that. For now, NeXT is structured as a hardware company, and the entrenched hard-liners want to keep it that way.

In Sullivan's opinion, now is the time to begin the transition, starting with a successful early shipment of NeXTSTEP '486. New hardware can follow on later, making up for any momentary dip in revenues.

You have to go with the flow, as Lt. Sullivan has opined to his hard-line brethren at the Agency. Take what comes. NRO is going to be sharing technology outside the black curtain. NeXT is going to be sharing technology outside its black hardware. There isn't any choice if you want to survive the new realities.

It's amazing what you can see in those KH-11 images, especially with the optics focused on Chesapeake Drive. But with budget cuts, Sullivan needs to rely on less expensive information sources. Help him out with your own G-2. Send it to sullivan@nextworld.com or leave him a message at 415/978-3374 (voice-mail). A tip gets you a complimentary Sullivan coffee mug.



NEXTWORLD EXPO

JANUARY 22-24, 1992 SAN FRANCISCO



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Critical Mass

WELCOME TO THE FIRST-EVER *NeXTWORLD Expo™*, the product exposition and conference for the world's most enlightened computer users. This is the event that brings together under one roof every segment of the diverse and vibrant *NeXT™* community. Here you'll witness the explosion of product choices from *NeXT* and third parties; you'll learn how to employ these new products and technologies to extend your strategic advantage; and you'll help to set the agenda for the *NeXT* community by defining the technology and market issues that will be addressed during 1992.

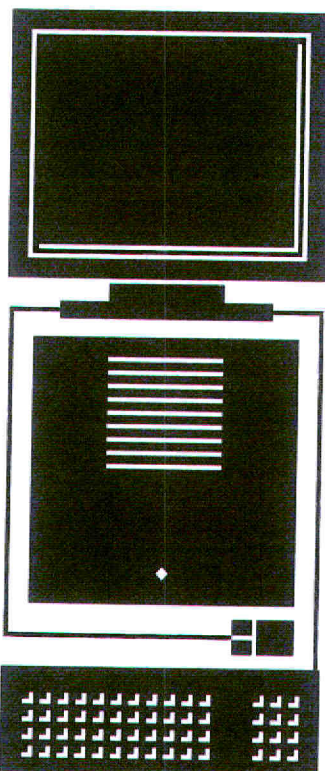
At the core is *NeXT Computer*, its technology, and its vision of computing. Most of all, *NeXTWORLD Expo* is a celebration of the arrival of the most highly evolved and integrated computer environment on the market today. There is plenty to celebrate: In the last year *NeXT* has fully established itself not just as a technology leader but also as a significant force in the international computer market. All of us who have bought into the *NeXT* vision only stand to gain.

When we included a *NeXTWORLD Expo* on our first Ten Most Wanted list last summer, this event was just a gleam in our eyes. An agreement between *NeXT*, *NeXTWORLD™*, and World Expo Corporation to jointly sponsor *NeXTWORLD Expo* was reached in early October. We settled on a January date, which was very aggressive in terms of planning and logistics but was good timing for the *NeXT* product announcements you will hear this week.

Despite the short notice, we have produced a show that offers something for everyone. Whether you are an end user, system administrator, computer manager, commercial or corporate developer, *NeXT* marketer, journalist, investor, or even a *NeXT* competitor, you are certain to come away from the Expo filled with information about and renewed enthusiasm for the *NeXT* platform.

NeXTWORLD Expo is like a four-ring circus. Under the Big Top, the show floor is brimming with new and exciting products. Plan to spend plenty of time cruising the aisles and exploring the booths for products and services you can put to use in your own organization.

The User Conference is divided into its own tracks. Two keynote and three general sessions offer top-level insights into new products, applications and



issues in the *NeXT* community. Concurrent sessions running during the first two days of the show explore a wide range of issues and trends, while a full curriculum of tutorial sessions enable real learning with *NeXT* tools for general users, power users, and system administrators.

The Developer Conference, sponsored by *NeXT*, runs all three days and covers in-depth technical and marketing information for commercial and in-house application developers. Also on the third day, a conclave of user-group leaders and members from around the world will meet to coordinate activities and ideas.

These events are supplemented by a variety of special attractions on and off the floor, including periodic product demonstrations in the show-floor theater and regular hands-on sessions sponsored by *NeXT*'s own service and training organization, *NeXTedge*. Full details including times and locations of all events are included in this show guide.

You are also encouraged to make time to visit *UniForum®* across town in Moscone Center to learn how *NeXT* fits into the overall *UNIX®* world. Shuttle buses are provided to take you back and forth between the two conferences.

There comes a moment in the evolution of every successful computer platform when the market not only attains critical mass but the success is also recognized by the world at large. We believe that this first *NeXTWORLD Expo* is the defining event that will bring the

NeXT revolution into sharp focus.

So enjoy, learn, exchange ideas, share the excitement. While you are at it, congratulate yourself for attending the first *NeXTWORLD Expo*. Years from now, after this event has moved to larger quarters and played to enthusiastic audiences worldwide, you can boast to the johnny-come-latelies that you were there when it all began.

Have a great show.

Dan Ruby
Editor in Chief, *NeXTWORLD*

Jeannine Barnard
Associate Publisher, *NeXTWORLD*

NeXTWORLD Expo

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NeXTWORLD Magazine

NeXTWORLD magazine is the comprehensive source of news, reviews and information for users and prospective buyers of NeXT computers. NeXTWORLD produces product focused quarterly issues supplemented by news-oriented monthly newsletters as well as the NeXTWORLD Expo. The quarterly is available by subscription and on the newsstand while the newsletter is available only by subscription. NeXTWORLD and World Expo Corporation are companies of International Data Group (IDG). International Data Group is the world's leading provider of information services on information technology.

Jeannine Barnard, Associate Publisher
Show Project Manager

NeXT Computer, Inc.

NeXT Computer, Inc. designs, manufactures, and markets professional workstations, which combine the power and networking of today's most advanced workstations with the ease of use and productivity applications of today's best personal computers. NeXT's professional workstation systems promise to enhance the way groups work together in the 1990s. The company sells its products directly and through selected retail and VAR channels in North America, Asia, and Europe.

Elizabeth Statmore, Group Manager
Developer Marketing
Show Project Manager

Kate Smith
Developer Conference Manager

World Expo Corporation

World Expo Corporation produces conferences and expositions in the high technology field. Created in 1974 as The Conference Company, the group now has offices in six countries. World Expo currently produces 58 events in 20 countries including Macworld Expo. Other World Expo Corporation events include: ComNet, CD-ROM Expo, Object World, and SunWorld Expo.

Bill Sell
Show Manager
David Ferrante
Exhibit Sales

NoIR — NeXT Organizations International

NoIR, NeXT Organizations International, is the sponsor of the international user group event at NeXTWORLD Expo. NoIR is a user group of user groups, dedicated to users helping users. Over 100 NeXT user groups from around the world will be represented.

Dan Lavin, Conrad Geiger
User Group Conference Managers

Expo Staff

Ben Calica
Conference Operations Manager
Gary Suen
Art and Production Director

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General Information

Location

Brooks Hall and Civic Auditorium,
99 Grove Street, San Francisco, California

Keynote Addresses

Wednesday, January 22, 10:30 a.m. - 12 p.m.

Thursday, January 23, 9 a.m. - 10:30 a.m.

User Conference

Wednesday, January 22, 1 p.m. - 6 p.m.

Thursday, January 23, 11 a.m. - 6 p.m.

Developer Conference

Wednesday, January 22, 1 p.m. - 5 p.m.

Thursday, January 23, 11 a.m. - 5 p.m.

Friday, January 24, 9 a.m. - 3 p.m.

User Group Meeting

Friday, January 24, 8 a.m. - 5:15 p.m.

Exposition

Wednesday, January 22, 12 p.m. - 7 p.m.

Thursday, January 23, 8:30 a.m. - 6 p.m.

Registration

Tuesday, January 21, 8 a.m. - 5 p.m.

Wednesday, January 22, 7:30 a.m. - 7 p.m.

Thursday, January 23, 7:30 a.m. - 5 p.m.

Friday, January 24, 7:30 a.m. - 12 p.m.

BART Service

Brooks Hall and Civic Auditorium are located at the Civic Center station.

Airport/Taxi

San Francisco is served by San Francisco International (SFO) Airport. Approximate taxi rate to Brooks Hall and Civic Auditorium from the airport is \$25-\$30. Van, bus, and limousine services are also available from the airport for approximately \$7-\$11.

Food Service

There are several food services open in Brooks Hall's cafe area on the exhibit floor.

Security

Please contact Show Management.

Shuttle between NeXTWORLD Expo and UniForum

NeXTWORLD Expo provides a free shuttle bus service to UniForum at Moscone Center, January 23, 10 a.m. to 7 p.m., and January 24, 9 a.m. and 6 p.m. Your badge is good for free UniForum admission.

Sponsorship Information

NeXTWORLD Expo is sponsored by NeXTWORLD magazine, the comprehensive news source of news, reviews, and information for users and prospective buyers of NeXT computers. The international Developer Conference is sponsored by NeXT Computer, and the global User Group Meeting is hosted by NOIR, the international NeXT user group organization.

Open Sessions

Open sessions presented by NeXT. The following sessions are open to all attendees on a sign-up basis at the room, or at the NeXT booth in the exhibit hall.

Developing Custom Applications

1 p.m. & 3 p.m., Wed 1/22,
Room 302

11 a.m., 1 p.m. & 3 p.m., Thu
1/23

*Susan Rayl, Lead developer trainer
Brad Green, Technical specialist
NeXT Computer, Inc.*

This 2-hour seminar will demonstrate how NeXTstep can ease the development of mission-critical custom applications. The seminar introduces the concepts of object-oriented programming and, specifically, the NeXTstep object-oriented system software. Participants will have the opportunity to gain hands-on experience with NeXTstep development tools, such as Interface Builder. No previous programming experience is necessary.

Exploring Productivity Solutions

1 p.m., 2 p.m., 3 p.m. & 4 p.m.,
Wed 1/22, Room 306

12 p.m., 1 p.m., 2 p.m., 3 p.m.
& 4 p.m., Thu 1/23, Room 306

In Exploring Productivity Solutions, a 45-minute hands-on session, participants will experience using the NeXTstation Color system. After a short introduction to the Workspace Manager application, we will use NeXTmail, FrameMaker, WordPerfect, Improv and Presentation Builder, Adobe Illustrator, and Appsoft Draw to edit and produce an annual report of a highly successful fictitious company. This session has been designed for the beginning NeXT user. There are no prerequisites beyond a desire to have NeXT experience.



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User Sessions

Keynote	General Session Polk Hall	Room 415	Room 304	Room 317	Room 320	Room 318
Wednesday, January 22						
10:30 a.m.	Keynote: Steve Jobs					
11 a.m.	Keynote (cont.)					
12 p.m.						
1 p.m.		Best of Breed I: Innovative Productivity Applications	Next On Campus	Power NeXTstep Tricks	How to Buy a NeXT Machine (in North America)	Mathematica for Mortals
2 p.m.		NeXT in Government	Hidden Gems	Mixed Environment War Stories	Illustrator Techniques	
3 p.m.		Multimedia and the NeXT	The Battle for the Commercial Desktop: Databases on the NeXT	Sysadmin Tricks of the Trade	Computer Security	Beginner's Guide to UNIX
4 p.m.		Invaluable Resources for NeXT Users	Interpersonal Computing: Putting IPC to Work	Open Systems and the NeXT		FrameMaker Tricks and Traps
5 p.m.	Ten Most Wanted					
Thursday, January 23						
8 a.m.						
9 a.m.	Keynote 2—TBA Plus Barlow & Lavin					
10 a.m.	Keynote 2—TBA (cont.)					
11 a.m.	Alsop & Seybold					
12 p.m.		Best of Breed II: Graphics Applications	Upgrading Your System		NeXT Programming for Fun	
1 p.m.		Plunging into Color	Under the Hood: The Promise of NeXTstep Development	Setting Up a Basic NeXT Network		How to Model in Improv
2 p.m.		Developing Mission-Critical Custom Applications	Tools for Mixed Environments	WordPerfect	Diagram Tricks and Traps	
3 p.m.		Under the Hood with NeXTstep Release 3.0	Financial Services	Networking NeXTs to Macs and PCs		
4 p.m.		NeXT in Publishing	The Electronic Frontier: The Ethics of Software	NeXT Esq., NeXT in Legal	How to Connect to the Internet	
5 p.m.	NeXT Technology Directions					

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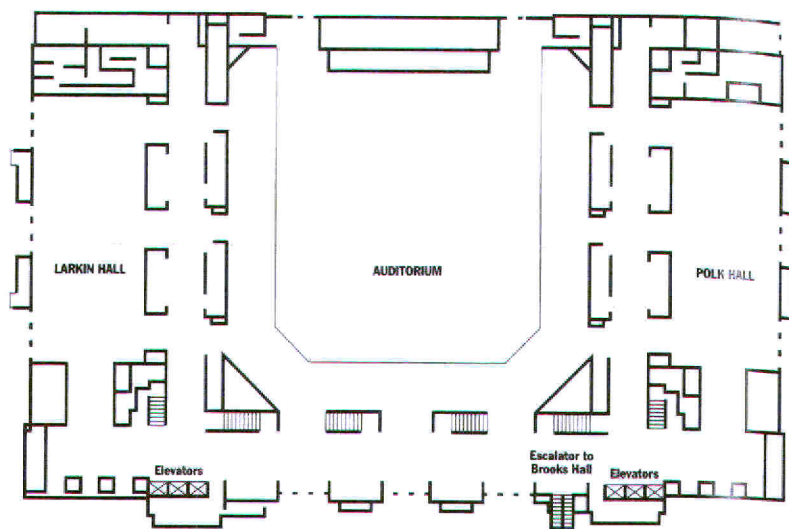
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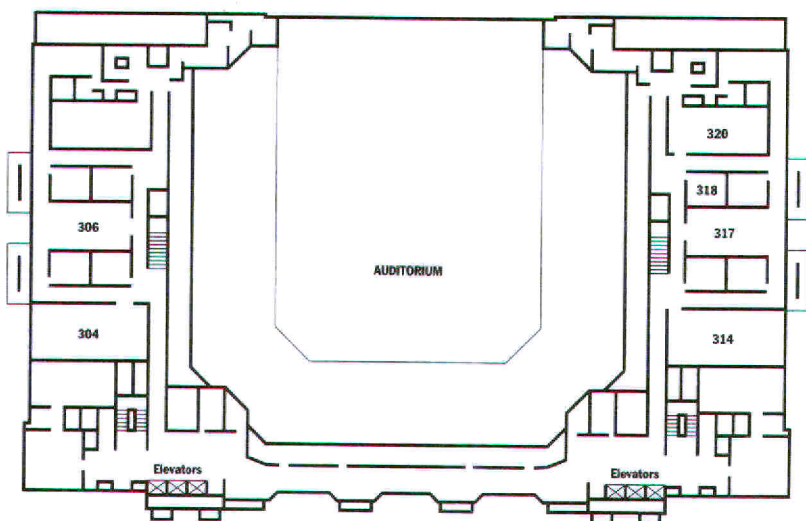
Developer Sessions

	Room 415	Room 403	Room 406	Room 408	Room 311	Room 302	Developer Lab (Room 314)
Wednesday, January 22							
11 a.m.							
12 p.m.							Developer Neighborhood
1 p.m.		01 Overview of New Features in NeXTstep Release 3	02 Database Kit in Depth	03 Marketing to Europe	Birds of a Feather Sessions		Developer Neighborhood
2 p.m.		04 Object-Oriented Programming	05 Distributed Objects	06 Localizing your NeXTstep Application	Birds of a Feather Sessions		Developer Neighborhood
3 p.m.		07 Interface Builder for Release 3.0	09 Kanji NeXTstep: Marketing Your Product in Japan	08 What's Interesting about PostScript Level 2?	Birds of a Feather Sessions		Developer Neighborhood
4 p.m.		10 Building Objects for Reusability	12 Q&A with Third-Party Engineers	11 RenderMan & 3DKit	Birds of a Feather Sessions		Developer Neighborhood
5 p.m.							
Thursday, January 23							
11 a.m.		14 Interapplication Communication	15 Where To Draw the Line Between NeXT and Third-Party Software?	13 Futures on Platforms			
12 p.m.		17 Performance Tuning I	16 Novell Connectivity	18 Your Partnership with NeXT	Birds of a Feather Sessions		Developer Neighborhood
1 p.m.		19 Building Multimedia Applications	21 Getting Your Product to Market	20 Performance Tuning II	Birds of a Feather Sessions		Developer Neighborhood
2 p.m.		22 Porting Applications from Other Platforms	23 ISDN and the Phone Kit	24 New and Improved Developer Tools	Birds of a Feather Sessions		Developer Neighborhood
3 p.m.		25 User-Interface Design	27a Improv API	26 Application Design and Architecture	Birds of a Feather Sessions and Architecture	27b Mathematica API — MathLink (Room 411)	Developer Neighborhood
4 p.m.					Birds of a Feather Sessions		Developer Neighborhood
5 p.m.							
Friday, January 24							
9 a.m.	The Philosophy of NeXTstep						
10 a.m.	The Philosophy of NeXTstep						
11 a.m.		28 Overview of New Features in NeXTstep Release 3.0	29 Database Kit In-depth	30 NeXT's Marketing Strategy and 1992 Marketing Plans		Designing Optimal Objects	Developer Neighborhood
12 p.m.		31 Interface Builder for Release 3.0	32 Indexing Kit: File Indexing and Record Management	33 NeXT vs. Sun — A World of Difference		Optimal Drawing Performance in NeXTstep	Developer Neighborhood
1 p.m.		34 Application Design and Architecture	35 Distributed Objects	36 Successfully Marketing Your Product	Birds of a Feather Sessions	Designing Optimal Objects	Developer Neighborhood
2 p.m.		37 Developing Database Kit Applications	38 Objective C and C++ Integration	39 Distributing NeXT Products in North America	Birds of a Feather Sessions	Optimal Drawing Performance in NeXTstep	Developer Neighborhood
3 p.m.		40 Open Q&A with Software Engineering	41 Open Panel on System Administration	42 Marketing Forum with Third-Party Developers	Birds of a Feather Sessions	Designing Optimal Objects	Developer Neighborhood
4 p.m.					Birds of a Feather Sessions		Developer Neighborhood
5 p.m.							

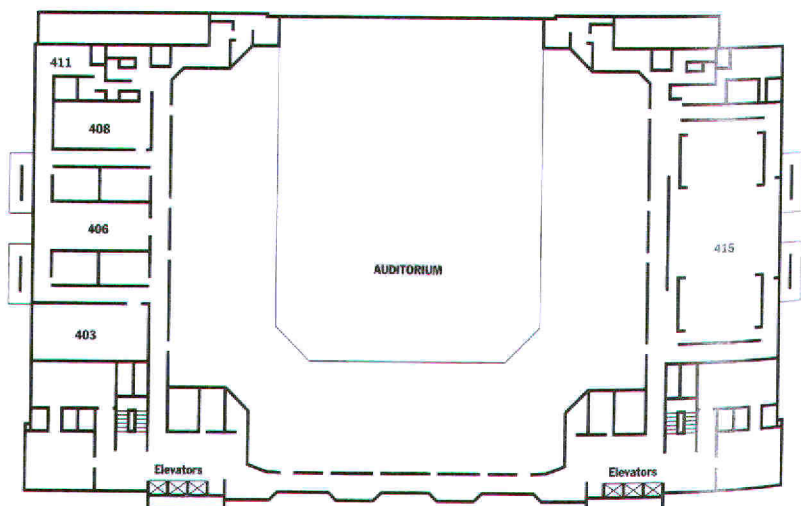
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User Sessions

Wednesday, January 22

Keynote

10:30 a.m., Wed 1/22/92, Main Hall

Steve Jobs, NeXT Computer

In his keynote presentation, Steve Jobs will announce new products and capabilities of the NeXT platform and talk about NeXT's future technology directions. The presentation will focus on the reasons behind NeXT's momentum in the professional workstation market, in particular its superiority for custom application development.

Ten Most Wanted

5 p.m., Wed 1/22/92, Polk Hall

Dan Ruby, NeXTWORLD

And special guests.

NeXTWORLD's editor in chief samples opinion from around the NeXT community as he updates his list of the most needed products, services, and developments from NeXT and third parties.

Best of Breed I: Innovative Productivity Applications

1 p.m., Wed 1/22/92, Room 415

David Grady, NeXT Computer

TBA, Software Ventures

Andrew Stone, Stone Design

Jonathan Schwartz, Lighthouse Design

And more...

What are the hottest new productivity products for the NeXT? In this panel we look at a selection of the latest and greatest new software, including the latest offerings from user favorites Stone Design and Lighthouse Design.

NeXT On Campus

1 p.m., Wed 1/22/92, Room 304

Ira Fuchs, Princeton University

Hal Varian, University of Michigan

Ron Weissman, NeXT Computer

Bob Desharnais, California State University, LA

How is the great higher education computer doing in higher ed? Universities have had NeXT machines longer than any other group. Come hear about the new developments hatching in our institutions of higher learning.

Mathematica for Mortals

1 p.m., Wed 1/22/92, Room 318

TBA

If you do serious math, you need Mathematica. And if you've always wanted to figure out how this math machine ticks, this is the session for you.

Power NeXTstep Tricks

1 p.m., Wed 1/22/92, Room 317

Charles Perkins, NeXTWORLD
Jayson Adams, Atherton Software Works
Jiro Nakamura, Cornell University
Tim Reid

A bevy of power users demonstrate their favorite tricks and shortcuts.

How to Buy a NeXT Machine (in North America)

1 p.m., Wed 1/22/92, Room 320

Erna Arnesen, NeXT Computer

*With representatives from the following NeXT distribution channels:
Dealer, VAR, Systems Integration, and Education*

This session will focus on the various distribution channels NeXT has put in place to best serve its customers in the United States, Canada, and Mexico.

Erna Arnesen, NeXT's director of channel sales, will provide an overview of NeXT's distribution channels. Various channel partners will also be on hand to describe the different types of distribution services available to customers.

NeXT in Government

2 p.m., Wed 1/22/92, Room 415

Dan Goldman, Argonne National Laboratory

Dan Pederson, Information Sciences Institute, DARPA

And more TBA.

Government agencies have many of the same needs as other corporations when it comes to computing. But they also need custom applications, special workgroup solutions, and enhanced desktop systems.

This panel will introduce you to some of the leading groups that have committed to NeXT in a big way, ranging from police departments to research organizations to city planners.

Some are adding NeXT to an existing heterogeneous computing environment, while others have decided to computerize whole departments and organizations with NeXT technology. How did they decide on NeXT? What problems have they run into? How are the users taking it?

We'll also explore what special problems NeXT technology faces in the government computing world.

Hidden Gems

2 p.m., Wed 1/22/92, Room 304

Dan Lavin, NeXTWORLD

Rick Reynolds, Bay Area NeXT Group (BANG)

Conrad Geiger, NeXT Computer

Jayson Adams, Atherton Software Works

The best things in life are free, at least sometimes. Four user experts show off their favorite shareware and NeXT utilities.

Illustrator Techniques

2 p.m., Wed 1/22/92, Room 320

Jerry Granucci, Adobe Systems

Adobe Illustrator was one of the few pieces of software to receive a five-cube rating from NeXTWORLD magazine. If you use this best-of-breed program and want to learn how to get the most out of it, this is the seminar for you.

The application everyone's been
whispering about has arrived.

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Mixed Environment War Stories

3 p.m., Wed 1/22/92, Room 317

Don Crabb, University of Chicago
Daniel Miles Kehoe, NeXTWORLD
Eric P. Scott, San Francisco State University

Getting NeXT machines smoothly integrated into a mixed computing environment isn't just a question of slapping a few wires together. Several networking masters from major NeXT sites share some triumphs and tragedies.

Multimedia and the NeXT

3 p.m., Wed 1/22/92, Room 415

Tony Bove, Bove & Rhodes Inside Report on Desktop Publishing and Multimedia
TBA (Special surprise companies)

A true multitasking machine that powers through graphics, animation and sound — Could the NeXT be the killer multimedia powerhouse everyone's been waiting for? Multimedia analyst Tony Bove leads you through the garden of NeXT-based multimedia applications.

The Battle for the Commercial Desktop: Databases on the NeXT

3 p.m., Wed 1/22/92, Room 415

Kris Younger, NeXT Computer
Peter Shepard, Sybase
Robert Dyas, IP Design
Adam Hertz, DBKit, NeXT Computer

NeXT can become the best desktop machine for business database applications by offering the best environment for database development. Because of the emphasis NeXT is placing on database access with the release of the DBKit as part of the base NeXTstep software, there will be tremendous strides made in the functionality and effectiveness of client-side database applications with DBKit's inclusion in Release 3.0. Each of these speakers will talk about how their products will help NeXT prove to commercial customers that NeXT is the platform of choice for the solutions to business problems.

Beginner's Guide to UNIX

3 p.m., Wed 1/22/92, Room 318

Charles Perkins, NeXTWORLD

The beginners guide to unleashing the power behind NeXTstep.

Sysadmin Tricks of the Trade

3 p.m., Wed 1/22/92, Room 317

Joe Barello, NeXTWORLD
Vicki Gorum, NeXT Computer
Eric P. Scott, San Francisco State University

Are you the network king of your hill? If so, there are probably things that you've wanted to do and problems you've needed to solve that you could use a little peer help with. This session is loaded with experts ready to share their favorite system-administrator tricks.

Computer Security in the Age of Interpersonal Computing

3 p.m., Wed 1/22/92, Room 320

Simson L. Garfinkel, NeXTWORLD

Networked workstations and interpersonal computing make it all the easier for vandals, spies and crackers to reach into your NeXTstation and wreak havoc. But cutting your net connection shuts you off from the outside world. What to do?

In this seminar, NeXTWORLD Senior Editor Simson L. Garfinkel will cover the threats and remedies to computer security. Whether you merely use an in-house local area network, connect to the outside world with UUCP to get electronic mail, or have a full-blown connection to the Internet, this seminar should help you sleep better at night.

This seminar will draw on Garfinkel's recently published book *Practical UNIX Security* (O'Reilly & Associates, 1991).

Help on Tap (Invaluable Resources for NeXT Users)

4 p.m., Wed 1/22/92, Room 415

Scott Love, NeXT Computer
Dan Lavin, NOIR
Paul Vais, NeXT Computer
And more...

This session will help NeXT users learn more about the resources available to them in answering technical questions or solving problems ranging from books to on-line services. This is a must for anybody who wants to learn more about unleashing the power of their NeXT system and network, or just get plugged into the NeXT community. Speakers will share their ideas, programs, sources and hot tips on getting the latest and greatest information about NeXT-related products and services. Highly recommended for NeXT technology managers, systems administrators, and all NeXT users who think they know where to find all the answers about NeXT products.

Interpersonal Computing: Putting IPC to Work

4 p.m., Wed 1/22/92, Room 304

Lars Rabbe, NeXT Computer
Alex Henry, William Morris Agency
Stephan Adams, Adamation
Rob Wilen, O'Connor and Associates

The 90s is the decade of interpersonal computing (IPC). Come learn from the pioneers who have put IPC to work and are achieving some startling results.

Open Systems and the NeXT

4 p.m., Wed 1/22/92, Room 317

Dave Taylor, SunWorld
Kari P. Karhi, Pencom Software
Paul Vais, NeXT Computer
Nina Litton, Open Systems Newsletter

How does the NeXT place in the world of workstation standards? Is another UNIX box the same as the NeXT, or do the creeping daemons of compatibility keep us fighting the version wars?

FrameMaker Tricks and Traps

4 p.m., Wed 1/22/92, Room 318

Sandy Knox, Frame Technology

FrameMaker is an incredibly powerful document layout program. But are you getting the most out of it? Are there questions you've always wanted answered, problems you need to work around? If so, bring your frame down to this tricks and traps session. Particular areas covered will include security headers and footers, special tricks and techniques for tables and conditional text, sideheads, and hypertext tricks.

Thursday, January 23

NeXT Keynote: Day 2

9 a.m., Thu 1/23/92, Main Hall

John Perry Barlow, NeXTWORLD
Dan Lavin, NeXTWORLD

In a half-hour warm-up, Barlow and Lavin: NeXTWORLD's irreverent reviewers pick their hits and misses of the NeXTWORLD Expo. From products to parties, nothing is safe from the gadflies of the NeXT world. (See addendum sheet for details on the second day Keynote.)

Special Session - To Be Announced

11 a.m., Thu 1/23/92, Polk Hall

Stewart Alsop, PC Letter

Jonathan Seybold, Seybold Report on Desktop Publishing

Well-respected industry analysts, Stewart Alsop and Jonathan Seybold get together for a rare joint appearance. See addendum for details.

Best of Breed II: Graphics Applications

12 p.m., Thu 1/23/92, Room 415

Leo Hourvitz, NeXT Computer
Randy Adams, Appsoft
Glenn Reid, RightBrain Software
Bruce Webster, Pages
And more...

The NeXT has always been a great graphics computer; now it has some great graphics software. Come take a sneak peak at some of the latest in the new flood of graphics software.

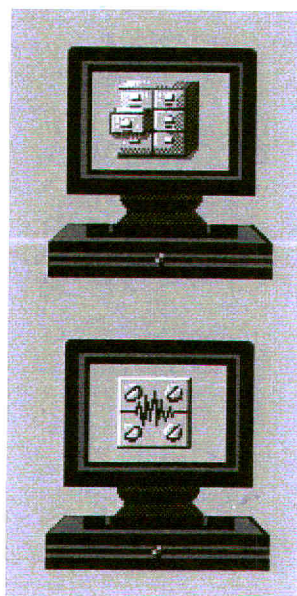
Upgrading Your System

12 p.m., Thu 1/23/92, Room 304

Ken Jochims, NeXT Computer
Microtech International
PLI
MicroNet Technology
Daniel Miles Kehoe
Rick Reynolds

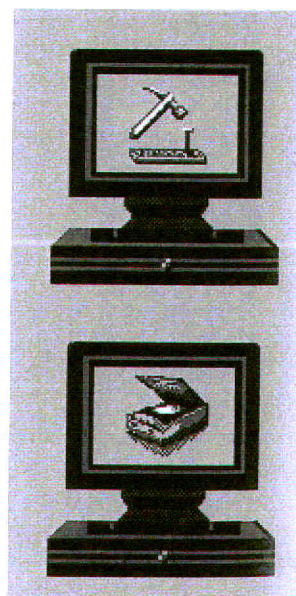
More memory, more hardware, more, more, more! As anyone who's worked with computers knows, there is no such thing as enough. But how do you feed that craving without giving your system indigestion or racking up too high a bill?

PaperSight® is the NeXT™ step to the paperless office.



With Visus' PaperSight®, you can scan in your paper documents, file them, then quickly retrieve them, review them, and annotate them with text or voice notes. You can use your scanner as a copier. Or use Xerox Information System's Optical Character Recognition and HSD's OCR servant to convert scanned documents for use with other applications, including word processors and spreadsheets. All NeXT capabilities are available with PaperSight, including speaker/listener communications, and fax input and output.

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Next Programming for Fun

12 p.m., Thu 1/23/92, Room 320

Randy Nelson, NeXT Computer

"If only I could program..." Have you always had the secret yearning to roll up your sleeves and become a programmer? This one-hour introduction is for those of you who think an afternoon spent programming sounds like recreation.

Plunging into Color

1 p.m., Thu 1/23/92, Room 415

Tony Bove, Bove & Rhodes Inside Report on Desktop Publishing and Multimedia

Keith Ohlfs, NeXT Computer

Leo Hourvitz, NeXT Computer

Bennet Leeds, Adobe Systems

Curtis Sasaki, NeXT Computer

"We're not going to do color until we do it right!" With these words Steve Jobs held a demanding world at bay while brilliant engineers built an even more brilliant implementation of color for the NeXT. Listen to the experts as they point to the pot of gold at the end of the color rainbow.

Under the Hood:

The Promise of NeXTstep Development

1 p.m., Thu 1/23/92, Room 304

William Parkhurst, NeXT Computer

Avi Tevanian, NeXT Computer

Andy Stone, Stone Design

Paul Hegarty, NeXT Computer

Matt Jacobis, Objective Technologies

Doug Macleod, International Data Corporation

Developers love the object-oriented programming environment of NeXTstep, PostScript imaging model, and rich collection of well-defined objects. But what do you get out of it? Hear how NeXTstep has delivered on its promise and what type of software you can expect in the future.

How to Model in Improv

1 p.m., Thu 1/23/92, Room 318

Scott Anderson, Lotus

Improv is one of the most popular pieces of software for the NeXT. In this session, an Improv expert helps point out some of the tricks and traps of this revolutionary piece of software.

Setting Up a Basic NeXT Network

1 p.m., Thu 1/23/92, Room 317

Joe Barello, NeXTWORLD

NeXT networks are reliable and fast once they're set up. But what are you in for when you first crack open the boxes? An experienced network administrator walks you through the basic setup of a NeXT based network.

Developing Mission-Critical Custom Applications Using NeXTstep

2 p.m., Thu 1/23/92, Room 415

Ron Weissman, NeXT Computer

Randy Nelson, NeXT Computer

Alex Cone, Objective Technologies
Others to be added.

NeXTstep has been widely recognized as the most complete object-oriented platform for application developers. This panel will feature users from very different communities who have developed custom applications using NeXTstep. Panelists will comment on their development projects, experience using NeXTstep development tools, results, and overall evaluation of NeXTstep versus other development environments.

WordPerfect Tricks and Traps

2 p.m., Thu 1/23/92, Room 317

Royce Bybee, WordPerfect Corporation

A member of the WordPerfect team will offer tips and tricks for using WordPerfect 1.0.1 on the NeXT. The suggestions will include answers to some of the most common calls to WordPerfect's customers support department: how to make sure all your files are installed in the correct directories, how to update your font list, and how to manipulate graphics to create great-looking documents.

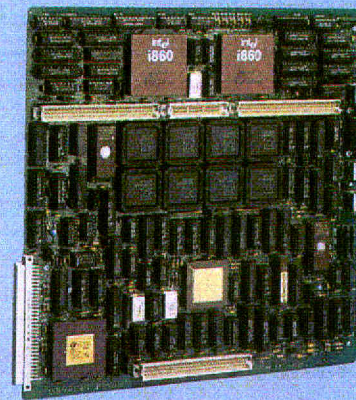
Diagram Tricks and Traps

2 p.m., Thu 1/23/92, Room 320

Jonathan Schwartz, Lighthouse Design

Despite its simple face, Diagram from Lighthouse Design provides a full-featured and innovative set of drawing tools. Diagram's product manager will walk you through an extensive course in making the most of NeXTstep's innovative graphics program. For starters, he'll review rubber-banding lines and labels, customizable drawing palettes, and file linking to Improv (and other applications). Additional topics will include adding voice annotation

Ariel's IRCAM Signal Processing Workstation The NeXT Plateau



- Two i860 RISC processors for 160 MFLOPS (93.5 MIPS) power
- 13.5 MIPS DSP56001 for I/O processing
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Ariel's IRCAM Signal Processing Workstation is more than the most powerful calculation engine for the NeXT Cube. It's a complete real-time supercomputing environment... and a new plateau for the NeXT.

Call Ariel at (908) 249-2900 to learn about IRCAM and Ariel's DatPort, ProPort, and QuintProcessor products for the NeXT.

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At the session's close, Lighthouse will be taking a survey of desired features for Diagram 2.0, so bring your suggestions!

3 p.m., Thurs 1/23/92, Room 415

NeXT listened to your feedback and incorporated many of your suggestions into Release 3.0. This session will provide an overview of what's new in Release 3.0 and will show you how some of its subtle features can help make life in the workstation world even easier for mere mortals. NeXT's product manager for Release 3.0, takes you on a one-hour tour "under the hood" to explore the new tools and capabilities of Release 3.0.

3 p.m., Thu 1/23/92, Room 304

Jim McCrory, NeXT Computer
Mat Jacobis, Objective Technologies
Hadar Pedhazur, UBS Securities
Bernard Lunn, Kapiti
Jonathan Littman, NeXTWORLD
Greg Anderson, Anderson Financial Systems

The financial services industry has readily accepted NeXT as a technology solution. Participants will include software developers of specific applications for trading and risk management, custom applications experts, and general purpose financial-software providers.

2 p.m., Thu 1/23/92, Room 304

Chris MacAskill, NeXT Computer
Dany Guindi, Pencom
Cliff Matthews, Abacus
Grover Richter, Novell
Marc Munford, Insignia Solutions
Olivia Favelle, Information Presentation Technologies

This session explores products that allow NeXT machines to run Macintosh, DOS, and X Window-based programs, and products that enable connectivity in a heterogeneous environment.

3 p.m., Thu 1/23/92, Room 317

Getting down and dirty with networking requires very specific information. This session goes into the nuts and bolts of setting up a network with Macs and PCs.

4 p.m., Thu 1/23/92, Room 415

Darcy DiNucci, NeXTWORLD
Glenn Reid, RightBrain Software
Peter Truskier, Star Graphics
Peter Jerram, Novell Publishing Group
Dave LaDuke, NeXT Computer

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With Display PostScript built into its core, the NeXT machine has all the potential to be a great publishing machine. How is it being used in the professional publishing world?

The Electronic Frontier: The Ethics of Software

4 p.m., Thu 1/23/92, Room 304

Denise Caruso, Digital Media

Simson L. Garfinkel, NeXTWORLD

John Perry Barlow

John Gilmore

An opinionated and informed group of industry observers battle out some of the ethical issues raised by the personal computer age. Issues to include: Privacy and encryption, software patents, project GNU, ISDN, privacy vs. workgroup access.

NeXT, Esq.: NeXT in a Legal Environment

4 p.m., Thu 1/23/92, Room 317

Ken Rosen, NeXT Computer

Gregory Miller, Inherent Technologies

Greg Johnson, Esq., Law Office Management Services

Lawyers typify the "professional" in professional workstation. They communicate constantly, collaborate with colleagues both inside and outside their firm, are involved in many things at once, place great demands on time so that performance is critical, and are rarely technically oriented, so ease of

use is critical. By bringing together the attorney, the legal developer, and the system installer, this session provides a view NeXT's entry into the legal environment.

How to Connect to the Internet

4 p.m., Thu 1/23/92, Room 320

Daniel Miles Kehoe

Seth Ross

A connection to the worldwide Internet network allows NeXT users to communicate with the world beyond their own worksite. This tutorial will introduce the Internet and describe resources such as worldwide electronic mail, news, and public software archives. We'll contrast the benefits of store-and-forward connections via UUCP versus live connections using dial-up products. You'll learn where to find a hub service, how to use NeXT's built-in software, and how to find help.

NeXT Technology Directions

5 p.m., Thu 1/23/92, Polk Hall

Simson L. Garfinkel, NeXTWORLD

Rich Page, NeXT Computer

Bud Tribble, NeXT Computer

NeXT's technical gurus discuss current products and future directions.

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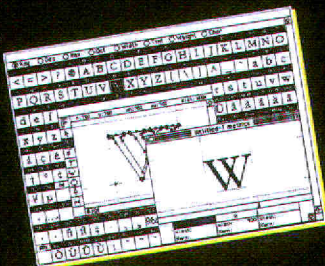
With all that you have invested in your PostScript and TrueType fonts, wouldn't it be great to be able to take them to your NeXT?

If you have some favorite fonts that are available only on the Macintosh? How about modifying these fonts and generating them in NeXT Type 1 PostScript language format? Altsys provides the answers to these and other questions with Fontographer, the industry standard for computer-generated type on the Macintosh, and Metamorphosis Professional, the complete font conversion utility.

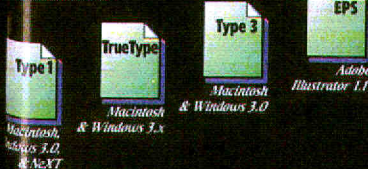
You can create fonts to take with you using Fontographer...

... or convert fonts with Metamorphosis Professional.

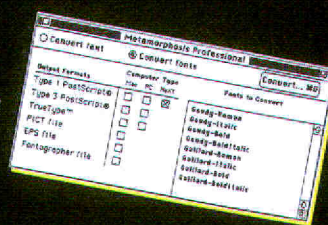
Fontographer, the industry standard for computer-generated type, lets you create and design typographic characters sets on the Macintosh and generate them in each of these outline file formats:



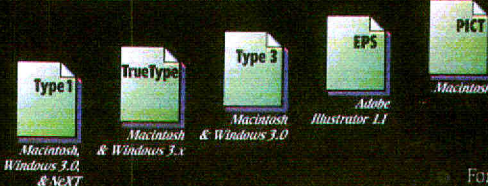
Fontographer, the industry standard for computer-generated type, lets you create and design typographic characters sets on the Macintosh and generate them in each of these outline file formats:



Convert your favorite Macintosh fonts for use on your NeXT with Meta Pro. No other software utility gives you this capability.



Meta Pro also gives you the power to convert your TrueType, Type 1, and Type 3 Apple Macintosh fonts into each of these outline file formats:



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Soon

Opening doors to
your creativity...

ALTSYS
VIRTUOSO

The advanced drawing,
design & production
program for the NeXT
professional workstation.



For more information about these products, please complete and return the attached reply card.

Developer Sessions

Keynote

The Philosophy of NeXTstep

9 - 10:30 a.m., Fri 1/24/92, Room 415

Paul Hegarty, director, NeXTstep software, NeXT Computer

Paul has been instrumental in the evolution of the Application Kit. He will talk about NeXTstep past, present, and future. Come hear about the NeXTstep difference!

Tutorials

Designing Optimal Objects

11 a.m., 1 p.m., & 3 p.m., Fri 1/24/92, Room 302

Tom Affinito, developer trainer, NeXT Computer

This tutorial focuses on "delegation," one of the issues necessary for insuring optimal reusability and flexibility in the classes you design. There will be examples showing when delegation is appropriate, how to guard against run-time errors, and what techniques can be used to optimize delegate calls. Some knowledge of Objective C required.

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Optimal Drawing Performance in NeXTstep

12 noon & 2 p.m., Fri 1/24/92, Room 302

Ken Fromm, director, Software, Vivid Publishing

This tutorial will take you step-by-step through a checklist for faster drawing techniques in NeXTstep. It will include specifics on optimizing in the Display PostScript system as well as in the Application Kit.

Special Activities

Birds-of-a-Feather Sessions

11 a.m. - 5 p.m., Wed - Fri 1/22 - 1/24/92, Room 311

Birds-of-a-Feather sessions are informal gatherings of people who share common interests. These sessions will be scheduled and publicized at the conference in the Developer Neighborhood. Anyone who wants to gather people to talk about a specific topic is welcome to schedule a Birds-of-a-Feather session.

Developer Neighborhood

11 a.m. - 5 p.m., Wed - Fri 1/22 - 1/24/92, Room 314

The Developer Lab is a place for developers to try out new things that they have learned from the sessions or in discussion with other developers. It can be used as an informal meeting place to discuss, share, and show your software or ideas with other developers.

The Developer Information Center will be in close proximity to the lab. This is a place to find answers to questions about developing on the NeXT platform. There will be developer registration packets, white papers, and other information a new or experienced NeXTstep developer might be interested in.

Free NeXTstation Color

We will be raffling off a NeXTstation Color machine to a lucky developer-conference attendee. Entrance into the contest will be automatic upon registration.

Sessions

General

Aimed at a more general audience; no prior knowledge of NeXTstep is required, though interest or knowledge in other areas might be useful.

Advanced

More technical; aimed primarily at NeXTstep developers, or those developers who have a depth of knowledge in the subject field already.

Marketing

Information about sales and marketing specific to NeXT.

One does not have to choose a specific track. They are merely noted for information's sake.

Sessions will be 50 minutes each. Most sessions will provide an opportunity for questions and answers. Those with several non-NeXT speakers will be primarily a forum for discussion.

01 Overview of New Features in NeXTstep Release 3.0

1 p.m., Wed 1/22/92, Room 403 — General Session

Lise Pfau, product manager, NeXTstep Release 3.0, NeXT Computer

Learn about the Release 3.0 innovations so that as a developer, you can maximize the impact of your application on the marketplace. The new release will be discussed in some depth, although due to the multitude of features, this session will primarily serve to whet your appetite.

02 Database Kit In-depth

1 p.m., Wed 1/22/92, Room 406 — Advanced Session

Adam Hertz, manager, Information Architecture Group, NeXT Computer

Adam will go into detail about what the Database Kit contains and the philosophy behind its design. You will find out how it will help you write database applications, which are database engine independent.

03 Marketing to Europe

1 p.m., Wed 1/22/92, Room 408 — Marketing Session

Duco Sickinghe, vice-president of Marketing, NeXT Europe

Sell more by going international. Come, listen, and ask how you can be successful in this market of some 320 million people, over 200 NeXT center locations, and lots of growth opportunities.

04 Object-Oriented Programming

2 p.m., Wed 1/22/92, Room 403 — General Session

Randy Nelson, lead developer trainer, NeXT Computer

Randy will give a lively overview of object-oriented programming. It will be aimed at people who haven't yet made the decision to join the ranks of object-oriented programmers.

05 Distributed Objects

2 p.m., Wed 1/22/92, Room 406 — Advanced Session

Blaine Garst, manager, OS Core Services Group, NeXT Computer

Client-server programmers have been waiting years for distributed objects, and other companies are desperately trying to provide them. Learn how you can message objects with Release 3.0 that reside anywhere, transparently, in Objective C and without any cumbersome RPC, MIG, or Speaker/Listener configuration files!

06 Localizing your NeXTstep Application

2 p.m., Wed 1/22/92, Room 408 — General Session

Paul Hegarty, director, NeXTstep Software, NeXT Computer

Paul will detail the new methods in the Application Kit which make it easy to localize your application to other languages. This is something you'll want to do to take advantage of the non-American English market that makes up a very large percentage of NeXT sales.

07 Interface Builder for Release 3.0

3 p.m., Wed 1/22/92, Room 403 — General Session

Jean-Marie Hullot, director, Interpersonal Computing, NeXT Computer

Jean-Marie will detail the new features of Interface Builder in Release 3.0.

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He'll show you how it makes program development easier than ever before.

08 What's interesting About PostScript Level 2?

3 p.m., Wed 1/22/92, Room 408 — Advanced Session

Leo Hourvitz, director, Software Engineering, NeXT Computer

Over a year ago, Adobe Systems announced the new version of the PostScript language, PostScript Level 2. Nowadays, a number of PostScript Level 2 printers (including NeXTstep Release 3.0 printers!) are out there. What new capabilities does PostScript Level 2 offer, and how does NeXTstep take advantage of them? Come hear about device-independent color, setpage device, image compression, and more!

09 Kanji NeXTstep: Marketing Your Product in Japan

3 p.m., Wed 1/22/92, Room 406 — Marketing Session

James Higa, representative director, NeXT Computer Japan

James will discuss the growing success of NeXT in Japan since the introduction of Kanji NeXTstep. Like NeXT Europe, NeXT Asia is a growing and important concern. This presentation will explain the key steps and points in preparing your company to do business in Japan and Asia. Learn more about how your product plans can incorporate Kanji as an important part of your overall sales forecasts. Additionally, target markets and key opportunities will be discussed. Question-and-answer session will follow.

10 Building Objects for Reusability

4 p.m., Wed 1/22/92, Room 403 — Advanced Session

Tom Affinito, developer trainer, NeXT Computer

This session focuses on how to create a general method interface for objects that you create. Learn how to create public and private methods, put variable initialization into awake methods, support error checking when unarchiving, and more. Practical advice and examples will be provided to help insure reuse and robustness for all your classes.

11 RenderMan & 3D Graphics Kit

4 p.m., Wed 1/22/92, Room 408 — Advanced Session

David Springer, 3-D graphics project manager, Software Engineering, NeXT Computer

Bruce Blumberg, developer support engineer, NeXT Computer

David will talk about what RenderMan and the 3DKit include and how they can help you do great 3-D graphics. Bruce will discuss and show example applications that he has written using this software.

12 Q&A with Third-Party Engineers

4 p.m., Wed 1/22/92, Room 406 — General Session

Andrew Stone, chief engineer, Stone Design

Ray Ryan, Lighthouse Design

Glenn Reid, vice-president of engineering, RightBrain Software and other third-party engineers...

Come hear what some of our third-party engineers have to say about writing NeXTstep software. This is your chance to ask people who have multiple shipping NeXTstep products questions about what it's really like.

13 Futures on Platforms

11 a.m., Thu 1/23/92, Room 408 — General Session

William Parkhurst, director, New Ventures, NeXT Computer

The industry is in a period of transition. The 80s platforms have topped out. The 90s platforms are beginning to take shape. William will discuss the leadership role that NeXT is taking in the establishment of the platform for the 90s.

14 Interapplication Communication

11 a.m., Thu 1/23/92, Room 403 — Advanced Session

Trey Matteson, software engineer, Application Kit Group, NeXT Computer

There are several new features in the Application Kit that make it easy to communicate with other NeXTstep applications. Trey will talk about NeXTlinks, which let you share data between documents owned by different applications. He'll also cover the new support for dragging objects between applications, as well as some new Services features that provide conversion between different data types.

15 Where to draw the line between NeXT and Third Party Software?

11 a.m., Thu 1/23/92, Room 406 — Marketing Session

Leo Hourvitz, director, Software Engineering, NeXT Computer

Chris MacAskill, manager, Developer Relations, NeXT, Computer

Jayson Adams, president, Atherton Software Works and other third-party representatives...

NeXT's vision is to write great enabling technology for developers. Clearly the Application Kit belongs on the release, but what about our applications? What about useful applications written as examples?

We've pulled together several people with differing opinions to give their views. This is your chance to understand the different sides of the issue and raise your own opinions.

16 Novell Connectivity

12 p.m., Thu 1/23/92, Room 406 — General Session

Novell will describe how they've integrated their connectivity software into NeXT's operating system.

17 Performance Tuning I

12 p.m., Thu 1/23/92, Room 403 — Advanced Session

Brian Pinkerton, software engineer, Information Architecture Group, NeXT Computer

This session will cover the important performance trade-offs of the system, and some essential techniques for building fast applications. The topics center on efficient use of virtual memory, and include use of memory zones, program reordering, and judicious use of system resources.

18 Your Partnership with NeXT

12 p.m., Thu 1/23/92, Room 408 — Marketing Session

Chris MacAskill, manager, Developer Relations, NeXT Computer

Kate Smith, manager, Developer Support Team, NeXT Computer

Chris and Kate will lead a session and discussion on how you and your company can best work with NeXT in developing your products. Topics will



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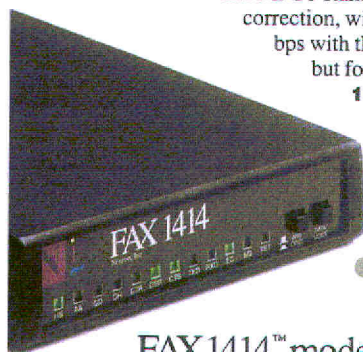
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cover the registered developer program, technical assistance, programming courses and generally, how to use the resources and services of NeXT to help get your product development started and products launched.

19 Building Multimedia Applications

1 p.m., Thu 1/23/92, Room 403 — General Session

*Dick Phillips, technical staff member, Computer Graphics Research,
Los Alamos National Laboratory*
Jesper Lundb, manager, Graphics Software, Xanthus AB

This panel brings together several engineers who have written multimedia applications using NeXTstep — specifically sound and graphics. They'll talk about their experiences and open the floor to questions.

20 Performance Tuning II

1 p.m., Thu 1/23/92, Room 408 — Advanced Session

Ken Anderson, manager, developer support, Adobe Systems

Ken will go into detail about how to make your application zippier. He'll focus on drawing and how to tune your Display PostScript system code and other drawing code.

21 Getting your product to market

1 p.m., Thu 1/23/92, Room 406 — Marketing Session

David K. Tu, vice-president, DisCopyLabs
Amanda Iles, free-lance writer and consultant
Allison Thomas, president, Allison Thomas Associates
and possibly others...

This session discusses a spectrum of activities needed to get a product to market, apart from designing the product itself. These activities range from public relations in conjunction with a product introduction to the physical production, manufacturing, and distribution of software media.

22 Porting Applications from Other Platforms

2 p.m., Thu 1/23/92, Room 403 — General Session

Tracy Powell, manager, NeXT Development, WordPerfect Corporation
Greg Cockcroft, chief scientist, Agog
Philippa Watson, senior software engineer, Insignia Solutions

This panel gathers together several engineers who have ported an application from other platforms to NeXTstep. They will describe their experiences and open the floor to questions.

23 ISDN and the Phone Kit

2 p.m., Thu 1/23/92, Room 406 — Advanced Session

*Morris Meyer, software engineer, system software, connectivity group,
NeXT Computer*

This session details another one of the new kits for Release 3.0. The Phone Kit generalizes the interface to digital (ISDN) and analog (POTS) telephony. With this Phone Kit, you can write applications that use the NeXT Computer to interface with the millions of phone lines worldwide.

24 New and Improved Developer Tools

2 p.m., Thu 1/23/92, Room 408 — General Session

Steve Naroff, manager, software development tools, NeXT Computer

NeXTstep's development tools have gotten even better. Find out how gdb and Edit work together to help you, how precompiled headers make the edit-compile cycle go faster, and what the new Project Builder can do for you.

25 User Interface Design

3 p.m., Thu 1/23/92, Room 403 — General Session

David Grady, advocate, NeXT Computer

David talks about what makes a great NeXTstep interface, and what doesn't. He'll show examples explaining his remarks.

26 Application Design and Architecture

3 p.m., Thu 1/23/92, Room 408 — General Session

William Parkhurst, director, New Ventures, NeXT Computer

William will talk about designing applications to anticipate future system capabilities.

27a Improv API

3 p.m., Thu 1/23/92, Room 406 — Advanced Session

Scott Andersen, technical marketing manager, Lotus Development
Matt Jacobus, senior software engineer, Objective Technologies

Scott will discuss Improv's Application Programmer's Interface (API). Matt will show and talk about how Objective Technologies uses this interface to build useful objects which communicate with Improv.

27b Mathematica's API — MathLink

3 p.m., Thu 1/23/92, Room 411 — Advanced Session

*Matthew Cook, member, technical staff, research & development,
Wolfram Research*
*Mike Mezzino, chairman, department of mathematics,
University of Houston — Clear Lake*

You will learn about Mathematica's API, and how one academic developer used it to build a custom front end to Mathematica's kernel.

28 Overview of New Features in NeXTstep Release 3.0

11 a.m., Fri 1/24/92, Room 403 — General Session

Lise Pfau, software product marketing, NeXT Computer

29 Database Kit In-depth

11 a.m., Fri 1/24/92, Room 406 — Advanced Session

Adam Hertz, manager, information architecture group, NeXT Computer

30 NeXT's Marketing Strategy and 1992 Marketing Plans

11 a.m., Fri 1/24/92, Room 408 — Marketing Session

Mike Slade, executive director, marketing, NeXT Computer

Mike will present an important overview of NeXT's marketing strategy and product positioning. This session is intended to help all NeXT developers understand NeXT's target markets and customers, where NeXT is selling today, and how we are positioning the company in these various markets. This is a key presentation for all developers. The information in this session

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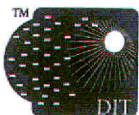
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will help developers think about how their new products should be positioned in 1992 and beyond. Question-and-answer session will follow.

31 Interface Builder for Release 3.0

12 p.m., Fri 1/24/92, Room 403 — General Session

Jean-Marie Hullot, director, Interpersonal Computing, NeXT Computer

32 Indexing Kit:

File Indexing and Record Management

12 p.m., Fri 1/24/92, Room 406 — Advanced Session

Jack Greenfield, software engineer, Information Architecture Group, NeXT Computer

Jack will talk about one of the newest NeXTstep kits. The Indexing Kit provides a general API for basic storage management, record management, and file indexing. It allows you to build your own storage manager, and it also provides easy-to-use, high level APIs for file indexing and record management that will satisfy the needs of many developers.

33 NeXT vs. Sun — A World of Difference

12 p.m., Fri 1/24/92, Room 408 — General Session

Henry Krempel, developer support engineer, NeXT Computer

Is NeXTstep really that much better than Sun Microsystems's OpenWindows? Henry will examine the differences and the advantages of using NeXTstep and NeXT's development tools to deliver state-of-the-art applications faster, easier, and better. You should attend this session if you're new to NeXT or want to really understand how you can build real object-oriented programs in less time. See for yourself why Sun developers are switching to NeXTstep.

34 Application Design and Architecture

1 p.m., Fri 1/24/92, Room 403 — General Session

William Parkhurst, director, New Ventures, NeXT Computer

35 Distributed Objects

1 p.m., Fri 1/24/92, Room 406 — Advanced Session

Blaine Garst, manager, OS Core Services Group, NeXT Computer

36 Successfully Marketing Your Product

1 p.m., Fri 1/24/92, Room 408 — Marketing Session

Donna Simonides, director, Developer Partnerships, NeXT Computer

Donna will discuss how third-party developers can plan their marketing and sales programs for success in NeXT's target markets for 1992. This session will also discuss what NeXT and its selling partners ask for in terms of product information, selling tools, and demo kits. Finally, developers will also be able to better understand what resources and programs are available to them in marketing their products to NeXT's customers. All conference attendees are encouraged to attend this session. Question-and-answer session will follow.

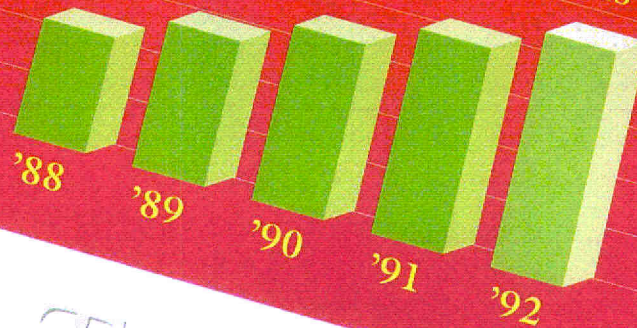
37 Developing Database Kit Applications

2 p.m., Fri 1/24/92, Room 403 — General Session

Jerry Goode, corporate systems engineer, NeXT Computer

Jerry will talk about how to develop an application using the Database Kit that you've been hearing about. He will create an application and show examples of the features and increased productivity that Database Kit

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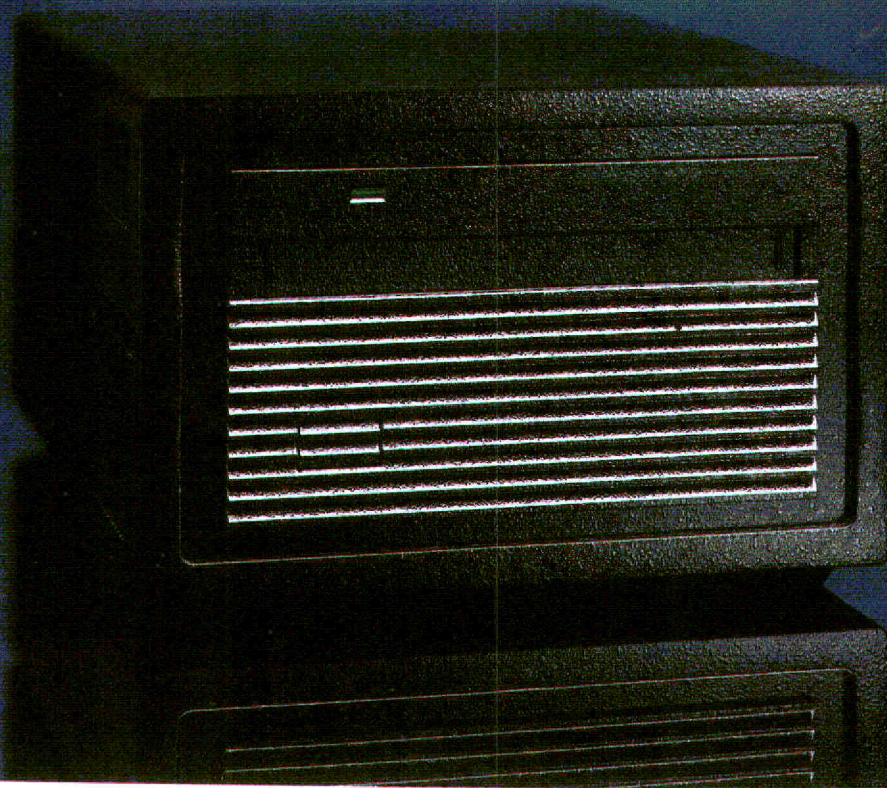
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DEC BI-Bus	NCR	Stratus
DEC HSC	Novell	Sun
DEC Q-Bus	OS/2	Unisys
DEC TU/TAB1	PS/2	Wang
DEC Unibus		and more

Rock Landing Corporate Center · 11846 Rock Landing, Newport News, VA 23606 · 804/873-9000 · FAX 804/873-8836

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THE NeXT BEST THING TO ON-LINE STORAGE: OUR 1GB OPTICAL DISK DRIVE.



When you need information at your fingertips fast, you need the CY-2000 magneto-optical disk drive from Contemporary Cybernetics Group. It's like having unlimited storage space. With the ability to access files in seconds. We call it "near-line" storage, and it's fully plug and play compatible with your NeXT computer system.

Each erasable-rewritable optical platter stores one full gigabyte – perfect for data intensive applications like multi-media, desktop publishing and digital video. Plus, it's ideal for private databases and security-sensitive files because the disks can be removed to prevent unauthorized access. With a 35 ms average seek time and a 10 Mbits per second transfer rate, you'll never have to wait to access files again.

The media are erasable, rewritable and extremely durable. One platter can last up to 40 years. And because they're small and lightweight, you'll enjoy reduced storage and shipping costs.

The CY-2000 is part of our family of data storage products that includes QIC streamers, magneto-optical disk drives, and 8mm helical scan tape subsystems and libraries.

If file access is trying your patience, don't wait another minute. For complete information on the CY-2000, call today at (804) 873-9000.

TRUE "PLUG-AND-PLAY" COMPATIBILITY WITH:

Alliant	Gould	PC 386/ix
Alpha Micro	HP	PC MS-DOS
Altos	IBM AS/400	PC Xenix/
Apollo	IBM Mainframe	Unix
Arix	IBM RISC/6000	Pertec
AT&T	IBM RT	Plexus
Basic-4	IBM S/38	Prime
Concurrent	ICL	Pyramid
Convergent	Macintosh	Sequent
DataGeneral	McDonnell	Silicon
DEC 3100	Douglas	Graphics
DEC BI-Bus	NCR	Stratus
DEC HSC	Novell	Sun
DEC Q-Bus	OS/2	Unisys
DEC TU/TA81	PS/2	Wang
DEC Unibus		and more

CONTEMPORARY
CYBERNETICS
Group

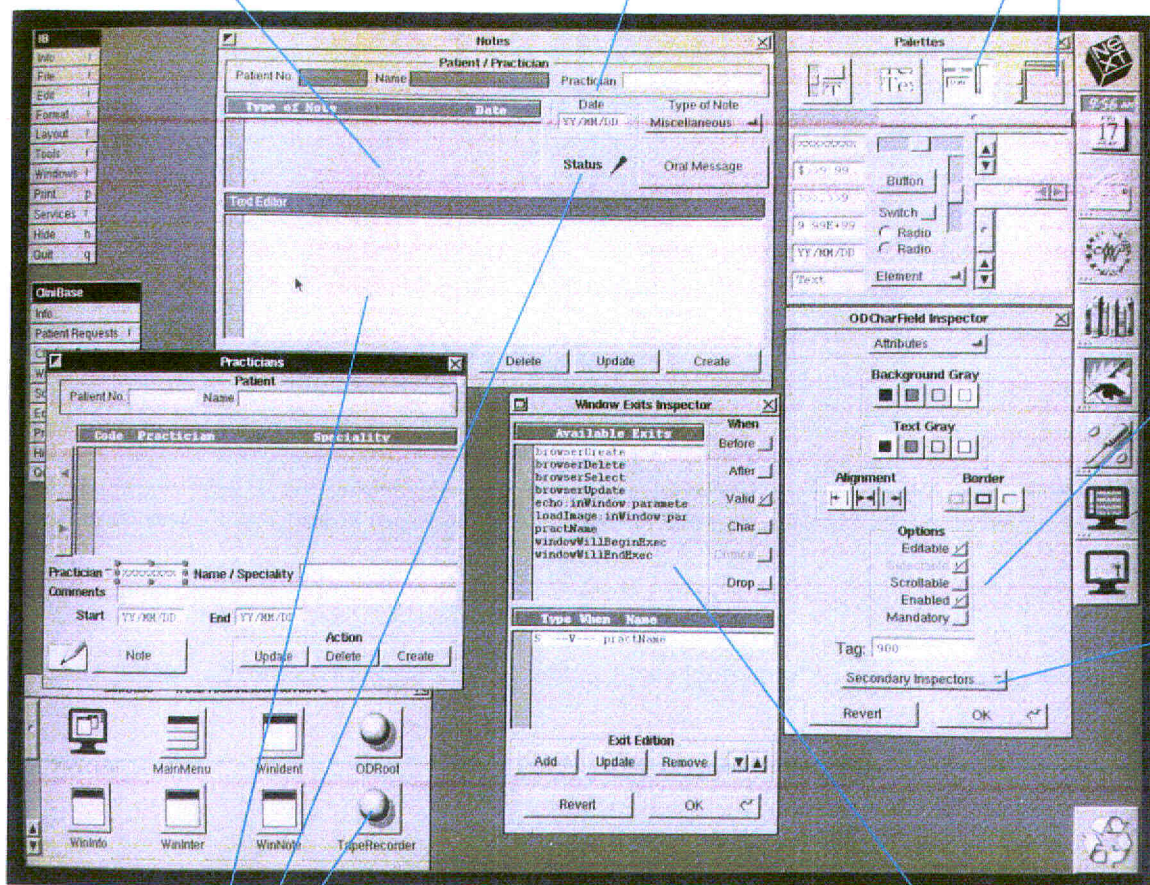
Rock Landing Corporate Center • 11846 Rock Landing, Newport News, VA 23606
804/873-9000 • FAX 804/873-8836

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FAX +33 88 66 79 19 Japan Tel: +81 3 3639 5841 FAX: +91 3 3639 5865 U.K. Tel: +44 7373 73544 FAX: +44 7373 62813
New Zealand Tel: +64 9 479 1100 FAX: +64 9 479 8009 R.D.C. Tel: +886 2 5068702 FAX: +886 2 5014198

The SQL Browser allows automatic retrieval of database data in a hierarchical manner.

TextField templates for characters, dates, money, integers, and floating point data are supported.

The Toolkit is interfaced through two dedicated palettes and their associated inspectors. You do not have to remember what classes are used to what end.



Sound data, as well as image and large text may be used and stored in the database without any objective-C programming.

Application specifics are programmed in SQL through field and window exits. These exits may be written and debugged under Interface Builder.

Inspectors may be used to define all field specifications.

Secondary inspectors govern access to database interface, SQL exits and more.

Introducing

Objective DB Toolkit™

A powerful programmer's interface bridging the gap between SYBASE database and NeXTstep Interface Builder.

This versatile programming environment is designed for the serious applications developer who needs to tap the power of SYBASE® without having to resort to the intricacies of 3GL coding. Objective DB Toolkit™ allows you to build and debug your whole application from within the Interface Builder™.

So, if you're working with SQL and are familiar with NeXTstep®, put Objective DB Toolkit to the test. It'll increase your productivity dramatically.

Easy Database Access

The database interface is designed to be simple enough for untrained personnel to format database queries: all you have to know is SQL. And, we made sure that the interface would respect NeXT™ standards and let you build applications using the NeXT environment as its standard.

Shorter Development Cycle

To build a simple application, you design the user interface from the specifications using Interface Builder. Once your interface has been accepted, you build the data structure to support it and make the connections with standard SQL select and update statements. A basic reporting capability is automatically included.

Flexibility

Ease of use does not preclude flexibility. Any field value may be substituted in SQL statements. Internal variables may be used to communicate data from field to field and from window to window. Exits may be cascaded in a single field. You may also add some dedicated specialized exits coded in objective-C.

COMING SOON

Objective DB Designer™
A VISUAL INTERFACE TO SYBASE

PSI Professional Software, Inc.
599 North Avenue, Suite 7
Wakefield, MA 01880
FAX 617-246-1443
DEMO DISK available.
Call 617-246-2425

(DBKit) c:

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(DBKit) can offer you as a developer.

38 Objective C and C++ Integration

2 p.m., Fri 1/24/92, Room 406 — Advanced Session

Steve Naroff, manager, Software Development Tools, NeXT Computer

This session concentrates on how C++ is integrated into the NeXT development environment. You'll see how you can port your existing C++ code to the NeXT platform.

39 Distributing NeXT Products in North America

2 p.m., Fri 1/24/92, Room 408 — Marketing Session

Erna Arnesen, director, Channel Sales, NeXT Computer
Kathi Kaplan, channel manager, Higher Education, NeXT Computer
Caroline Donahue, manager, Value Added Dealer Channel, NeXT Computer
Barry Stockwell, manager, VAR/Systems Integrator Channel, NeXT Computer

How do products get sold and distributed in NeXT's North American marketplace? NeXT's channel sales team will present an overview of NeXT's distribution and channel strategy for North America. The session will also provide information about how companies can work with NeXT to select the best channel strategy for their products and services. Question-and-answer session will follow.

40 Open Q&A with Software Engineering

3 p.m., Fri 1/24/92, Room 403 — General Session

Leo Hourvitz, director, Software Engineering, NeXT Computer
Paul Hegarty, director, NeXTstep Software, NeXT Computer
Avie Tevanian, director, System Software, NeXT Computer
Jean-Marie Hullot, director, Interpersonal Computing, NeXT Computer
William Parkhurst, director, New Ventures, NeXT Computer

Want to know the history of the Application Kit? Which version of Mach we're based on? This is an open panel session with the friendly folks from

NeXT's software team. We'll have several engineers and engineering directors on hand for those questions of yours that just aren't getting addressed in any of the other panels. Feel free to come by and ask anything (although panel members reserve the right not to answer some questions).

41 Open Panel on System Administration

3 p.m., Fri 1/24/92, Room 406 — Advanced Session

Garth Snyder, software engineer, System Administration Tools, NeXT Computer
Linda Bridwell, customer support engineer, NeXT Computer
Andrew Simms, customer support engineer, NeXT Computer
Bryce Jasmer, network administrator, NeXT Computer
Vicki Gorum, manager, Networking and Workstation Support, Information Services, NeXT Computer

This is your chance to ask those system administration questions that have been lurking in your mind. We'll have a cross section of engineers who have written and supported the system administration software on the NeXT platform.

42 Marketing Forum with Third Party Developers

3 p.m., Fri 1/24/92, Room 408 — Marketing Session

Marc Munford, manager, NeXT Marketing, Insignia Solutions
Jeff Anderholm, group product manager, Improv, Lotus Development
Jonathan Schwartz, manager, Sales and Marketing, Lighthouse Design
Jack Reynolds, vice-president, Sales, HSD Microcomputer US

Learn from the best among your peers. Veteran third-party NeXTstep marketing managers will discuss and share their personal views about marketing and selling products to NeXT's customers. Come gather ideas about how you should work with NeXT in planning your product's introduction. Find out which strategies work and which ones don't. The open panel format will allow for lively question-and-answer time; don't miss this one!

Exhibitors

Abacus Research & Development

1650 University N.E.
Albuquerque, NM 87106
505/766-9115
Booth 602

Executor-MSW is an inexpensive Macintosh emulator tailored to run the Macintosh version of Microsoft Word 4.00D. Perfect for mixed environments of NeXTs and Macintoshes, Executor-MSW allows you to continue to use Word as your editor of choice. Executor-MSW supports cut and paste and the Services menu, both in ASCII and Rich Text Format. Executor-MSW comes bundled with HFS_SFer, a program to allow you to copy data to and from Macintosh formatted high density floppies.

Adamation

1435 Center St.
Oakland, CA 94607
510/452-5252
Booth 203

Who's Calling? is a fully automated client

management and scheduling system with modules for tracking client information, conversation histories, and live network messages. A sophisticated group calendar and several support modules round out the package. The program can be modified to fit each user's needs, or Adamation can tailor custom applications their software.

Live Wire is a groupware application for the NeXT computer. It allows multiple users to simultaneously edit a document with text and images on a local or remote network. Live Wire can also be used as a live conferencing environment.

Adobe Systems

1585 Charleston Rd., P.O. Box 7900
Mountain View, CA 94039-7900
415/961-4400

Booth 512

Adobe Systems, creator of the PostScript language, provides Display PostScript technology for the NeXT platform, resulting in true WYSIWYG between the

screen and printed page. Adobe also develops and markets NeXT applications including Adobe Illustrator 3 software and the recently released Adobe TouchType software. Popular typeface packages from the Adobe Type Library are also available. Of special interest to developers is DisplayTalk 2.0, the recently published book *Programming the Display PostScript Systems*, with NeXTstep, and the Software Developers Kit for Display PostScript.

Altsys Corporation

269 W. Renner Rd.
Richardson, TX 75080
214/680-2060
Booths 218 & 317

Altsys, the creator of award-winning graphics software such as Fontographer and Aldus FreeHand, now presents Virtuoso — the PostScript language drawing, design, & production program for NeXT professional workstations. Virtuoso has an extensive, yet easy-to-use feature set which provides designers of all levels of expertise with the

tools necessary to create and produce illustrations on the NeXT. Just a few of these features include: precise drawing and transformation tools, auto tracing capabilities, layers, styles, advanced text-handling capabilities, 100 levels of undo and redo, and the ability to import Aldus FreeHand 3.0 and Adobe Illustrator 3.0 artwork from any platform. Virtuoso, coupled with the superb graphical and multitasking environment of NeXT workstations, is the ultimate professional graphics solution.

Appsoft

300 Hamilton Ave., Suite 550
Palo Alto, CA 94301
800/428-2777
Booth 506

Appsoft, the newest software publisher to enter the NeXTstep community, is demonstrating the following applications: WriteNow, the first full-featured word processing program developed for NeXTstep, which offers powerful word-processing capabilities in an affordable

and easy-to-use program. Appsoft Draw, the application of choice for professional-looking business graphics, provides you with powerful drawing tools, an easy-to-use interface and multiple capabilities that will have you creating effective presentations and informative flyers in a flash. Appsoft Image, the premier photo editing tool for NeXTstep, offers all the tools needed to edit and manipulate images instantly. Combine photos, TIFF & EPS images, color, text, graphic objects, and more to create virtually any image you can think of.

Ariel Corporation
433 River Rd.
Highland Park, NJ 08904
908/249-2900
Booth 311

Ariel will be showing the IRCAM Signal Processing Workstation (ISPW), a dual Intel i860 RISC multiprocessor add-in board for the NeXTcube that is suited for real-time signal processing, scientific computing, and other computer-intensive applications. We will also be showing: QuintProcessor, a plug-in board for the NeXTcube featuring five DSP56001 digital signal processing chips; ProPort, a 16-bit dual channel 44.1 KHz D/A - D/A converter; DM-N Digital Microphone, a self-contained stereo microphone with built-in, 16-bit 44.1KHz converters; and DatPort, an AES/EBU to NeXT DSP converter.

Atherton Software Works
77 Marsh Rd.
Atherton, CA 94025
415/321-3720
Booth 528

Atherton Software Works, a recent software start-up focused on developing personal productivity and interpersonal computing applications for NeXT workstations, will be introducing its new NeXTstep software products. These are the first in a series of exciting applications and tools planned for release in 1992: NewsExplorer, an electronic news reader and clipping service application automating information retrieval from digital news feeds; Engage, an intelligent utility that enhances the capabilities of the NeXT Workspace Manager dock; and Date, an improved version of this popular calendar application (which will be bundled from the NeXTstep system software with the 3.0 release).

Bacchus
2210 Wilshire Blvd., Suite 330
Santa Monica, CA 90403
310/820-9145
Booth 719

Pixel Magician is a universal picture-file viewer and translator for NeXT computers. Supports all popular file formats - TIFF, EPS, PICT/PICT II, Targa, PCX, GIF, BMP, and others. Works through the NeXT Services menu.

BANG
(Bay Area NeXT Group)
P.O. Box 1731
Palo Alto, CA 94302
415/327-2264
Booth 702

The Bay Area NeXT Group is proud to introduce the first CD-ROM product especially for NeXT users.

Sex, Lies & CD-ROM is a wonderful compilation of tools, resources, clip art, clip sound, informational references, examples, and fun designed to help you use and enjoy your NeXT computer.

Sex, Lies & CD-ROM is formatted to the specifications of the new Rock Ridge Extensions to ISO 9660 now supported under NeXTstep 3.0 (required).

Enjoy over 500MB of wonderful materials free with new BANG membership or renewals after the release of NeXTstep 3.0 and while limited supplies last. Stop by our booth for a sneak preview.

Booz, Allen & Hamilton
4330 East West Hwy.
Bethesda, MD 20814
Booth 202

Boss Logic
505 North Third St.
Fairfield, IA 52556
515/472-7740
Booth 413 & 314

Document Manager is designed for medium to large installations. Among its many features it provides high-speed document search, comprehensive revision control, cross-linking of documents, automatic tracking, updating, and notification. Document Manager handles any type of object (file) on the NeXT computer.

Contact Manager is designed to manage a wide range of information on people and companies. It offers an unlimited number of user-defined fields, auto dialer, file cabinet for document storage, auto generation of mailing, mail merge, instant search, unlimited notes per contact, and more. Contact Manager is designed to be used by a single user or by large work groups.

Canon USA
One Canon Plaza
Lake Success, NY 11042
516/488-6700
Booths 230, 329, 330

Canon, USA will be showing a variety of color publishing solutions for the corporate environment by using the NeXT computer with the Canon Color Laser Copier. Also, there is planned participation from Canon of Japan with a technology demonstration of Kanji NeXTstep and application software from a few independent Japanese developers.

Coconut Computing
7946 Ivanhoe Ave.
La Jolla, CA 92037
619-456-2002
Booth 217

Coconut Computing is the developer of the Coconet Access Program, and CocoTalk API C library, all of which have been ported to run on NeXT computers. The Coconet host is a multiuser, graphics-based conferencing and bulletin board system that supports electronic mail, live chat, live multiuser conferencing, message bases, group and private file transfers, and real on-line graphics. In each Host package is included one copy of the freely-distributable Coconet Access Program which end-users can use to connect to a Coconet host system using a friendly, graphical interface.

Computerworld
375 Cochituate Rd.
Framingham, MA 01701
800/669-1002
Literature Bin

Computerworld is a weekly newspaper written for information systems professionals who are responsible for the planning, implementation and management of computer-based information systems. These systems include data and telecom in business, government, vendor, and educational organizations. Computerworld focuses on news, strategic, and business issues, as well as real-life case studies.

Computrend
1403 N. Batavia Suite 113
Orange, CA 92667
714/744-1895
Booth 612

Computrend is a leader in marketing electronic prepress publishing systems based on the NeXT computer. We will be showing high-resolution input scanners, color correction and separation software, and page layout and design software. We will also show how you can output to imagesetters like the Linotype-Hell Linotronic series.

Cub's Systems
8, Rue Felix Pyat
92043 Paris - La Defense
France
33/1/46-93-29-25
Booth 207

Cub's-X-Window is the X Window server Version11 Release 4 for NeXT computers. It provides the means to fully link NeXT computers and X Window workstations over a network.

Cub's-X-Window runs in black/white and 4096 colors on all NeXT computers. It is available with different window managers and toolkits, and includes OSF Motif 1.1.3.

Cub's-X-Window provides the X-Window solution which best answers your needs.

You can run X Windows in the NeXTstep screen, simultaneously with other NeXT applications.

You can run X Windows in a virtual screen parallel to the NeXT step one: X Windows on the NeXT is then no different than on other workstations, switches to NeXTstep remains easy and instantaneous.

Cub's-X-Window can also run without NeXTstep, as a stand-alone X Window

server on the NeXT.

Digital Instruments Technology
127 Eastgate Dr., #20500
Los Alamos, NM 87544
505/662-1459
Booth 118

DIT, publisher of the best-selling FloppyWorks, is proud to showcase their most recent product, OnDuty. OnDuty is powerful and easy-to-use office productivity software that can schedule appointments and reminders, track names, manage contacts, and jot down notes and ideas. Customize the program to the way you work with personal preferences. A multiuser shared database means you can share data with colleagues, while private flags maintain confidentiality when you need to. OnDuty prints hard copies of your data and includes a customizable import/export tool to share information with other applications.

DisCopyLabs
48641 Milmont Drive
Fremont, CA 94538-7354
510/651-5100
Booth 112

DisCopyLabs, a turnkey software manufacturing service, has been NeXT's software duplication vendor since 1990. Toshiba also designated DisCopyLabs an approved duplicator of its 4MB extra-high density, 3.5-inch floppy disk (2.88MB formatted). DisCopyLabs has the expertise to provide NeXT's third-party developers with additional services in project and design management, package assembly, warehousing and order fulfillment. DisCopyLabs's expertise in software manufacturing services extends to value-added services for software duplicated on all computer media and other turnkey services for software publishers, OEM and peripheral equipment manufacturers and other volume software developers.

Dow Jones & Company
P.O. Box 300
Princeton, NJ 08543-0300
609/520-4393
Booth 601

DowVision is a comprehensive, fully integrated information service that delivers business news and information directly to corporate desktops. It features broadcast delivery of seven business news wires and The Wall Street Journal. DowVision will also feature interactive access to Dow Jones News/Retrieval. The feed is enabled at the customer location by third-party developers and internal customer-development teams. Dow Jones representatives will discuss DowVision opportunities for NeXT developers and customers. They will demonstrate how the NeXT is a compelling platform for retrieval and display of business information.

Ensulin
4220 S. F
Las Vegas
702/792
Booth 2

Ensulin Te the first dig platform.

Papyrus digital form a database, 35 built-in human res and a busir You are booth and PapyrusFor our team to can handle tasks more

ESL
495 Java
Sunnyvale
408/743-
Booth 11

ESL, a subs federal syst developer f of informat NeXT incl authoring t tool. ESL d and provide networking



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Ensuing Technologies

4220 S. Maryland Pkwy #406B
Las Vegas, NV 89119-7525
702/792-6799

Booth 205

Ensuing Technologies is proud to introduce the first digital forms package on the NeXT platform.

PapyrusForms is a complete professional digital forms solution. Easier to use than a database, try a couple of our more than 35 built-in forms, templates, including a human resources form, an address book, and a business contact database.

You are warmly invited to stop by our booth and request a demo copy of PapyrusForms on diskette. Ask a member of our team to show you how PapyrusForms can handle your business and administrative tasks more quickly and easily.

ESL

495 Java Drive
Sunnyvale, CA 94086
408/743-6161

Booth 109

ESL, a subsidiary of TRW, has been a federal systems integrator and a software developer for NeXT since 1989. ESL's suite of information-handling software for the NeXT include HyperNotes — a hypermedia authoring tool — and a database navigation tool. ESL develops custom hardware and provides on-site support for NeXT networking, systems administration, and

user training.

Forty-Two Software

Jessenstrasse 4
2000 Hamburg 50
Germany
49/40/38-19-24

Booth 120

A brief overview of the TOOLdisk applications: **Album:** Manages multiple paste-boards of distinct data types. **Dater:** Organizes your schedule, lets you link documents to appointments and maintains a ToDo list. **TIFFConverter:** Converts all the different TIFF styles. **ASCIIConverter:** Allows RTF and ASCII texts to be converted for use on another platform. **Crypt:** Files can be easily encrypted and decrypted. You can maintain security in data transfers as well as locally. **FileEdit:** An editor to manipulate file byte by byte. **Package Builder:** Replaces the complicated UNIX installer script. **Hextris:** The hexagonal follower of Tetris. **Audio-Clock:** Really "tells" you the time.

Hayes Microcomputer Products

501 Second St. #300
San Francisco, CA 94107
415/974-5544

Booth 220

Hayes features its latest in high-speed communications with products that provide end users with powerful applications for

integrated services and high speed data transfer available through ISDN.

Hayes ISDN System Adapter is an integrated voice and data multimedia adapter that implements the Hayes Standard AT Command Set for ISDN and provides communication with many types of applications including TCP/IP connectivity using Marble Teleconnect. Hayes is currently pursuing other communications solutions to enable high-speed ISDN data transfers with NeXT workstations, as well as analog modem, fax, and digitized voice applications.

Hayes also features a range of high-speed modems including the cost-effective Optima 96, a V.32 modem for high-speed personal communications applications such as accessing information systems, bulletin boards, or host computers.

Highland Digital

1001 Elwell Court
Palo Alto, CA 94303
415/493-8550

Booth 500

Highland Digital, a leading workstation vendor, presents workstation publishing with NeXT. We will be demonstrating FrameMaker Version 3.0, along with other products from RightBrain Software, Lighthouse Design, and HSD.

HSD Microcomputer US

1350 Pear Ave., Suite C
Mountain View, CA 94043
800/828-5522

Booth 324

HSD is exhibiting its complete line of imaging, document management, optical character recognition, fax, and data communications solutions for NeXT computers. HSD's scanning products include the 8-bit Scan-X Professional and the 25-bit Scan-X Color scanners, both of which include HSD's proprietary Spectrum Enhancement technology. For optical character recognition of faxes or scanned documents, HSD offers OCR Servant and OCR Servant Professional. HSD also offers the FaxMaster 96/24 X, a 9600-baud fax and 2400-baud data modem that comes bundled with a free copy of OCR Servant.

I-link GmbH

Hammerstrasse 45c
1000 Berlin 37
Germany
49/30/781-7055

Booth 224

Mix is a combination of: 2400-bps full duplex data modem, 9600 bps send and receive group III fax modem, advanced telephone answering machine and voice mail system with digital storage for announcements and incoming messages, all running in software on the Digital Signal Processor that is built into every NeXT computer. Mix is easier to use than conventional hardware machines and provides a much greater functionality and a much higher level of

integration. Mix automatically switches incoming calls to fax, modem, telephone, or answering machine. The small mix hardware does not use a serial port and does not need a power supply.

Imagine Multimedia

44 Frank Lloyd Wright Dr.
Ann Arbor, MI 48106
313/930-7777

Booth 614

MediaStation is an authoring tool that integrates the input, processing, storage/retrieval, presentation, and output of multimedia data. Acclaimed for its ease of use, MediaStation makes it simple to integrate photographic-quality images, CD-quality sound, real-time video, animation, and text into dynamic presentations with no scripting or programming necessary. MediaStation is employed for a wide variety of multimedia applications, including business presentations, interactive training, and image/sound databases. A variety of external devices are directly supported by MediaStation, including color scanners, CD-audio devices, and video disk players. NeXTdimension owners can take full advantage of MediaStation's support for real-time video input and output.

Information Presentation Technologies (IPT)

555 Chorro St.
San Luis Obispo, CA 93405
805/541-3000

Booth 428

Macintosh users can now gain all the advantages of a powerful NeXT computer with complete transparent integration.

IPT's uShare is fully AppleShare compatible, so Macintosh users can work just as if connected to an AppleShare server, with all the processing power and worldwide networking ability of the NeXT, while NeXT users maintain full access to both Macintosh and NeXT files. All information is stored on the file server using the NeXT file system including password protection.

The product also provides bidirectional print spooling. The uShare Print Spooler allows Macintoshes to utilize NeXT printers and NeXT computers to print to AppleTalk printers on an AppleTalk network.

Information Technology Solutions

400 West Erie St. #402
Chicago, IL 60610
312/951-7462

Booth 108

Information Technology Solutions is a full service provider of NeXT expertise in the midwestern United States. Our first commercial product, SpeedDeX, is a free-flow multimedia information organizer. Based on a card file metaphor, SpeedDeX can be used as a contact database, a clip art file, a document organizer, or for any other simple information organization task. ITS also provides custom-development expertise, network installation and manage-

Darwinism comes to NeXTstep™

VOID™
look behind you

LIGHTHOUSE DESIGN
Practice or perish.
See our NeXTConnection ad for more information...

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ment services, NeXT training, and end-user support.

Informix Software

4100 Bohannon Drive
Menlo Park, CA 94025
800/438-7627
Booth 627

Wingz is the easy-to-use, high-performance graphic spreadsheet for business and technical professionals. Using Wingz, you can combine numbers, words, charts, and graphic images in one window, and print to one page - all with one product. The Wingz worksheet is 32,768 rows by 32,768 columns (more than 1 billion cells) and includes over 140 built-in functions, 2-D and 3-D charts, and support for thousands of colors. Wingz also includes HyperScript - an English-like event-driven development environment. HyperScript gives you the power to customize the interface and build Executive Information Systems. It also comes with a Learn mode so novice users can come up to speed quickly and easily.

Insight Software

3004 S.W. First Ave.
Portland, OR 97201
503/222-2495
Booth 325

ElectroFile is an electronic filing system that allows the user to classify and retrieve all types of documents, scanned images, faxes, spreadsheets, word processing files, etc., in a matter of seconds. Once a document is retrieved, the user may make notes, cut, paste, edit, OCR, record voice messages, or attach other files to it. ElectroFile is designed to handle millions of documents and facilitates interpersonal computing.

Insignia Solutions

245 San Geronimo Way
Sunnyvale, CA 94086
415/694-7600
Booth 306

SoftPC is the only software solution that lets you run over 50,000 MS-DOS applications on your NeXT computer. Our best-selling emulation software creates an IBM window on any NeXT computer and maps all the functions of a PC to the NeXT. You'll have an A: floppy drive, EGA graphics, COM1 and COM2 ports, and formatting functions just like you were using an fast IBM/AT 286. SoftPC is full-featured PC compatibility, all in software. With SoftPC, your next MS-DOS computer could be a NeXT.

Intel Corporation

3065 Bowers Ave.
Santa Clara, CA 95052
408/765-1703
Booth 318

IP Design

201 Wilshire Blvd. Suite A-3
Santa Monica, CA 90401
310/394-1820
Booth 219

ParaBase was designed to give end-users and corporate MIS professionals the power to create custom, multiuser, multimedia database applications. By storing its data in the Sybase SQL Server and providing users with a powerful drag and drop NeXTstep interface, users are able to immediately create custom database applications that can store anything in the database (including scanned images, documents, and spreadsheet models) and be accessed by anyone on the network (whether 1 user or 500). Sophisticated data-entry forms, query by example, integrated data import/export, graphical report writing and full database system administration tools are just a few of the long list of features.

Lighthouse Design

6516 Western Ave.
Chevy Chase, MD 20815
301/907-4621
Booth 301

Desktop productivity becomes a reality with Diagram! and Concurrence from Lighthouse Design.

Diagram! is a smart, general purpose graphics tool, designed for business graphics and technical drawing. Diagram! features user customized symbol libraries, automati-

cally-redrawn rubber-banding lines, along with many more traditional drawing tool features.

Concurrence is an integrated presentation and outlining tool with radically reduces the amount of time necessary to produce professional presentations, from 35mm slides to viewgraphs.

Lighthouse Design, headquartered in Chevy Chase, Maryland, is dedicated to producing and marketing quality software for NeXTstep computers. A portion of Lighthouse Design's profits are contributed annually to charity.

Lorienne

12 rue Edmond Roger
75015 Paris
France
33/1/49-85-03-76
Booth 103

Graphic products under X11 or NeXTstep: GPHIGS, a 2-D and 3-D library (ISO 9592 norm PHIGS); D_GPHIGS, a PEX concept-based library, for client/server application with PHIGS; PHIGURE, a high level primitives library, around PHIGS; and GKS BX, a 2-D library (ISO and ANSI norm GKS).

General tools: TRUELINK, a TCP/IP bridge between Ethernet networks, through the serial line; and LORITEL, a VIDEO-TEX terminal on a NeXT workstation.

Lotus Development Corporation

55 Cambridge Parkway

Cambridge
617/577
Booth 5

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38 Edge
Waltham,
617/891
Booth 6

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Metare
516 S.E. I
Portland,
503/238-
Booth 7:

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FIND OUT HOW MUCH CHARACTER YOUR NEXT COMPUTER REALLY HAS...



TypeView is the perfect companion product for Desktop Publishing, Presentation, or Illustration software; quickly view a character set, copy and paste into your document and review many different type families, styles, and sizes of the alphabet, Lorem Ipsum, or custom text. What would normally take you 30 keystrokes takes only 3 with TypeView. It installs into the NeXT services framework and is great when using international languages. TypeView opens the world of typefaces to you...

 **TypeView**
from vivid publishing

To Purchase Contact RightBrain Software at 415-326-2974 or NeXTConnection at 800-800-NeXT. Distribution and Site Licenses Available. Vivid Publishing can be reached at 415-949-4933

Here's the Missing Link your NeXT has been looking for.

eXodus™ for the NeXT computer.

From the developers of eXodus for the Macintosh, an X Window Display Server that lets your NeXT computer communicate with VAX, Sun, HP, Prime or any other host using the X Window System.

Available in March... and well worth the wait!

For more information, call or write
White Pine Software,
40 Simon Street, Suite 201,
Nashua, NH 03060-3043.
Tel: (603) 886-9050.
Fax: (603) 886-9051.



WHITE PINE SOFTWARE

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Cambridge, MA 02142
617/577-8500 or 800/343-5414
Booth 502

Lotus Improv is the next-generation spreadsheet that lets you view and analyze data in new ways. Dynamic views enable you to rearrange your spreadsheet instantly with the touch of the mouse. Up to 12 categories of data can be arranged in any 2-D or 3-D format. Use plain English to write formulas that are self-documenting and apply to many cells, no need to copy formulas. Includes a variety of built-in 1-2-3 style "@" functions. Create compelling color or black-and-white presentations with data, text, images, and sound. Improv reads and writes 1-2-3 files, so you can share your work with other spreadsheet users.

**Marble Associates and
Marble Software Products,
a Division of Marble
Associates**
38 Edge Hill Rd.
Waltham, MA 02154
617/891-5555
Booth 625

Marble Associates is a leading technology strategy and consulting organization specializing in business re-engineering using the "Marble Workgroup Paradigm." This Workgroup Strategy often positions NeXT workstations along with departmental or divisional servers, mainframes, network topologies and protocols, etc., in a distributed, enterprise-wide model of technology systems and data flows. We have significant expertise in integrating NeXT technology into heterogeneous environments, including traditional mainframe-class environments.

Marble Software Products, a division of Marble Associates, focuses on high-quality software products that subscribe to the Workgroup Paradigm. Marble Software Products will be demonstrating: **Marble Teleconnect**, a telecommuting and internet-working solution; **Decision Builder**, a tool kit for building decision support systems; and **Designer Labels**, an office-automation and workgroup productivity application.

Metaresearch
516 S.E. Morrison, Suite M1
Portland, OR 97214
503/238-5728
Booth 713

The Digital Ears stereo digitizer is the tool of choice to fully exploit the sound capabilities of the NeXT family of computers. It digitizes analog stereo signals from any source to true compact disc digital format information (16bit, 44.1KHz stereo), and sends them to the Digital Signal Processing (DSP) port on the NeXT. The Digital Ears is a stand-alone device drawing its power from the same DSP port.

SoundWorks is a powerful, easy-to-use software package used to enter, edit and mix sounds on the NeXT in much the same way you manipulate text with a word processor. Communication with other applications makes it trivial to seamlessly

integrate sound into any multimedia document, even on another computer. SoundWorks also supports an increasing variety of external devices for recording and playback.

The Color Digital Eye hardware and software unit is a video frame grabber used to input and manipulate high-quality color images into NeXT computers. Color Digital Eye offers a resolution of 640 by 480 pixels in 24-bit color, and comes with the software necessary to retouch and integrate images. Color Digital Eye accepts all major world-wide video standards and can be used to make 160 x 120 pixel "movies" at 15 frames per second.

Metrosoft
712 Vanitie Court
San Diego, CA 92109
619/488-5844
Booth 617

MetroTools enhances the NeXT computer, accomplishing tasks quickly and easily so that you can focus on more important work. By adding the MetroTools icon to your application dock, you add a whole array of functions that use one simple interface. Decompress files, and import fonts and sounds by simply dropping their icons into the MetroTools panel - MetroTools does the rest. Find files and launch programs quicker. Even when you're not using MetroTools it's at work saving your screen from burn-in. MetroTools, is flexible, allowing each user to customize their environment, and is expandable to include new tools and screen saver modules.

Microtech International
158 Commerce St.
East Haven, CT 06512
203/468-6223
Booth 426

Proud to participate in the first annual NeXTWORLD Expo, Microtech International will be displaying its Eclipse line of high-end storage peripherals, designed specifically for NeXT computers, including large-capacity hard drives from 200MB to 1.3GB; the Eclipse 50R Removable Drive, Eclipse CD, and Eclipse 2.0T Tape Backup System. Microtech will also be introducing **RunningBack** tape backup software - the first intuitive, point-and-click tape backup software available for NeXT computers. All products are manufactured with the quality that has become synonymous with the name Microtech.

MicroTimes
3470 Buskirk Ave.
Pleasant Hill, CA 94523
510/934-3700
Booth 200

MicroTimes, California's computer magazine, will be distributing complimentary copies of our Northern Zoned Edition. *MicroTimes* delivers corporate and professional consumers of computer products. *MicroTimes's* 190,000+ circulation reaches

the single-largest market of PC buyers nationwide.

MRJ
10455 White Granite Dr.
Oakton, VA 22124
703/385-0759
Booth 130

The ICS Division of MRJ provides hardware and software integration, application development and network management for a wide range of workstations. MRJ will be demonstrating **Netmap**. This tool provides a pictorial representation of network hardware, workstations, and peripherals. Users will be able to perform configuration management, network monitoring, Netinfo, NIS and NFS database generation. For example, users will be able to combine floor plans with system hardware icons to graphically describe system components and connectivity. Users can integrate and manage small- to large-scale networks that graphically describe relationships between system hardware icons. This product will be available early 1992.

Multimedia Learning
5215 North O'Connor, Suite 200
Irving, TX 75039
214/869-1410
Booth 711

Multimedia Learning provides training software and services, as well as system integration services to industry and government. Their software product is **KnowledgeTool**, a multimedia courseware authoring system and presentation-development tool. Using **KnowledgeTool**, course developers create interactive multimedia sessions that simulate the work environment.

Multimedia Learning offers the consulting services required to develop custom programs, including training for customer service, software, manufacturing, and financial systems.

Neuron
125 Village Blvd.
Princeton, NJ 08540
609/452-1100
Booth 106

Neuron FAX 1414 and Neuron FAX 1414+ packages are hardware/software combinations designed for the NeXT computer. They provide fully integrated Group 3 fax send and receive (14,400 bps) and high speed V.32 bis data communication. The modems are capable of data speeds up to 76,800 bps. The modems can tell whether the incoming call is fax or data, and automatically run the correct process such as our Getty or Fax Drivers.

NeXT Computer
900 Chesapeake Drive
Redwood City, CA 94063
Booth 412

NeXT Computer designs, manufactures, and sells professional workstations, which combine the power and networking of

today's most advanced workstations with the ease of use and productivity applications of today's best personal computers. NeXT's Professional Workstation systems promise to enhance the way groups work together in the 1990s. The company sells its products directly and through selected retail and VAR channels in North America, Asia, and Europe.

NeXTWORLD Magazine
501 Second St.
San Francisco, CA 94107
415/978-3200
Booth 406

Objective Technologies
7 Dey St., Suite 1502
New York, NY 10007
212/227-6767
Booth 518

Objective Technologies (OTI) is a developer of general-use software for NeXT platform. Objective Technologies sells four palettes that help programmers develop applications: **ChooserPalette**, a selection list manager; **GraphPalette**, for graphing in custom applications; **MathPalette**, for developing applications that use Wolfram Research's Mathematica; and **SmartField Palette**, for text formatting. They are the first third party custom-object palettes for the NeXT system.

OTProvide is OTI's newest product. It is a link between relational databases and Lotus's Improv. A beta version of OTProvide is currently being sold and the release version will be available in the first quarter of 1992.

Océ Graphics USA
385 Ravendale Dr.
Mountain View, CA 94039
800/545-5445
Booth 228

The G5240-PS Range Color PostScript printers put the power of color PostScript printing on your desktop. A full palette of Pantone-certified colors and a true Adobe PostScript interpreter ensure superior quality in presentation graphics, desktop publishing, and graphic arts applications. The G5240 Range printers utilize 300-dpi thermal transfer technology and offers large printable areas of 8.2 inches by 11 inches for the A/A4 format (G5241-PS) and over 11 inches x 17 inches for the B/A# format (G5242-PS).

Oracle Corporation
Booth 312

Pencom Systems
9050 Capital of Texas Highway N.
Austin, TX 78758
512/343-1111
Booth 312

Pencom Systems is the industry leader in UNIX and open systems employment, providing full-time engineering placement, contract programming, and consulting and training. With five offices nationwide and

a database of over 70,000 qualified UNIX specialists, Pencom can quickly fill temporary or permanent positions with qualified engineers.

Pencom Software is the company's software-development division, providing custom-development, porting testing, quality assurance, training services, and shrinkwrapped software products that help users migrate from proprietary to open systems. On display at the Expo will be co-Xist, a software product that allows users to run X Window applications on NeXT computers.

PLI
47421 Bayside Parkway
Fremont, CA 94538
510/657-2211
Booth 411

PLI, premier manufacturer of storage solutions for the NeXT, is introducing six new products. The PLI DAT drive, a digital audio tape drive, has a capacity of 2GB. The Infinity Optical 5.25 inches (600MB), Infinity Optical 3.5 inches (128MB), and Infinity MaxOptical (1GB) are PLI's new rewritable optical drives that utilize either 5.25-inch or 3.5-inch removable cartridges. The new Infinity Optical 21MB is a new floppy drive that combines an optical servo tracking and barium ferrite-based vertical recording to achieve 21MB capacity. PLI is also showing a new line of fixed internal and external drives.

Professional Software
599 North Ave. - Door 7
Wakefield, MA 01876
617/246-2425
Booths 117, 119

Professional Software will be showing their Objective DB Toolkit and Objective DB Designer, both used to help easily build Sybase applications.

Pyramid Technology
1295 Charleston Rd.
Mountain View, CA 94043
415/335-8934, 800/289-7973
Booth 600

Pyramid Technology Corporation is offering NeXT customers a comprehensive solution built around a classic client-server database model. In this model, a NeXT 68040-based client computer with the NeXT Mach kernel communicates with a Pyramid MIServer running a database under the Pyramid SVR4 kernel. Pyramid staff members will be on hand to provide information on the MIServer family of high-performance, high-availability systems. Additionally, Pyramid Professional Services will provide information on its system integration capabilities and consulting.

Quest
P4-1516 E. 1st Ave.
Vancouver BC
N/A

Booth 114

Quest will be showing 3 shipping products and 1 in beta. These are CallLink, MidiLink, MidiLink+, and the beta PowerLink.

CallLink is a n automated phone answering system which goes beyond traditional voice-mail systems. It connects to the NeXT computer and is capable of receiving messages for multiple users. Callers are presented with a set of menus and commands that are controlled from a touch-tone phone. CallLink can fax a file using a fax modem and can also execute functions that are added by the user.

MidiLink and MidiLink+ are serial to midi converters for the NeXT computer. It lets you connect midi devices to your NeXT computer via the serial port.

PowerLink is a UPS controller that can gracefully shutdown and restart a NeXT during a power failure. This is a must for servers entrusted with your data.

RDR
10600 Arrowhead Drive
Suite 350
Fairfax, VA 22030
703/591-8713
Booth 700

RightBrain Software
132 Hamilton Ave.
Palo Alto, CA 94301
415/326-2974
Booth 520

RightBrain Software will be showing a suite of software solutions which revolutionize desktop publishing. PasteUp, a full-function page layout program, is being debuted at the Expo. PasteUp provides breakthroughs in user interface, typographic control, and pre press, and has the ability to produce a professional multimedia piece as well as whipping out a three-page memo. Several companion products will also be shown, including Portfolio, an image manager for TIFF and EPS files; RightBrain Rulers, floating ruler guides for use across multiple applications; The Adobe Type Library, over 1000 fonts developed exclusively for NeXT computers; and TypeView by Vivid Publishing, a tool for comparing and selecting fonts. Two Productivity Tools, LaunchPad and LockScreen, will also be shown.

Sarrus Software
777-C Woodside Rd. #101
Redwood City, CA 94061
415/364-1432
Booth 211

Pencil Me In makes individual and group scheduling easy. A variety of page formats show appointments for a day, week, or month at a time. Reminders keep after you, day by day, until important tasks are completed. Events can have file attachments, alarms, and can be repeated in a series. Pencil Me In keeps track of overlapping appointments so you can resolve scheduling conflicts at any time. Use one of the group formats to view the calendars of

several people at once, then press a button to invite them to your meeting. Many people can open a single calendar simultaneously. Updates are automatically seen by everyone viewing the calendar. Print formats fit into standard paper time planners.

Second Glance
25381-G Alicia #357
Laguna Hills, CA 92653
714/855-2331
Booth 618

ScanTastic is a scanner-control application for the NeXT workstation that fully exploits the capabilities of a wide variety of image scanners. It features global, non destructive image-processing and color-correction tools in an open architecture, allowing the product to be extended with optional filter libraries and additional scanner modules.

Image-enhancement tools such as tone curves, brightness and contrast controls, sharpening and blurring filters, and a saturation utility are included with the software. Any combination of these tools can be chained together, forming an "edit list." Since all corrections are non destructive, each can be adjusted and reapplied to the image without any loss of data.

Software Ventures Corporation
2907 Claremont Ave.
Berkeley, CA 94705
510/644-3232
Booth 212

MicroPhone II for the NeXT is a breakthrough product that makes telecommunications accessible to everyone. It features a powerful Pascal-like script language, high-speed modem control, a Watch Me macro maker for recording log-on scripts, and background file transfers. MicroPhone II includes terminal emulation for TTY, VT100, and VT102 and features file transfer protocols for Text/ASCII, XMODEM, and ZMODEM.

Stone Design
2425 Teodoro N.W.
Albuquerque, NM 87107
505/345-4800
Booth 619

DataPhile is a sophisticated end-user database system for the NeXT computer. It is designed for people who need a flexible everyday database without the complexities of a rigid, relational database. Using DataPhile's intuitive front end, anyone can build and manage a personal flat-file database, modifying it and generating reports easily and at any time. DataPhile comes with several useful template databases and requires no additional servers.

Stone Design's Create is a professional color drawing application that allows instant creation of complex PostScript graphics and text. Create includes unique text and graphics special effects that are not available in any other graphics package or platform. Create has the ability to integrate

rich text and graphics and has an expert mode for edition PostScript.

Talus Corporation
11850 Riverview Way
Houston, TX 77077
713/556-6007
Booth 620

The Rio Desktop Film Recorder from Talus Imaging allows NeXT users to inexpensively create professional-quality 35mm slides, Polaroid printers, pocket-sized overhead transparencies, and 35mm motion picture footage. The RIO Film Recorder sells for \$6595 and comes complete with a 35mm camera back, a Polaroid instant back, a NeXT interface kit, Imager software, user manual, and 2-year factory warranty. With hardware resolution of up to 4096 by 3600 pixels, the RIO Film Recorder is specially designed to allow you to RIP the image from the built-in true Adobe PostScript interpreter that is built into your NeXT computer.

Tecor
237 Miramar Drive
Santa Cruz, CA 95060
408/458-3197
Booth 319

Tecor specializes in high quality mass storage devices. Products to be shown include; Tecor Removable Drives, Tecor DAT Drives, Tecor CD-ROM Drives, carrying cases, hard drive enclosures and the 70 GB Tecor Towering Skyscraper. They will also be showing their Advantage Medical Practice Management software.

Teledia
121 rue Chanzy
59250 Lille-Hellemmes
France
33/20/67-59-58

Teledia
800 Vinial St. #411
Pittsburgh, PA 15212
412/321-5850
Booth 214

Protect your work with BackupMaster. It automatically backs your system up, saving only the new and changed files, thus saving you time and media. Easy to learn, with its own NeXTstep interface.

Enjoy voice control with Phrase Player. This digital dictation machine will adapt pauses between words and phrases to your typing speed, and can be controlled by your voice. Use it to type your voice mail or rehearse a speech.

Need easy data entry, flexible layout design, and sophisticated queries? FileMaster allows immediate entry of data without having to build a layout. When you need a layout, you can drop in a PostScript or TIFF file as a background. Queries can use multiple files spread over a network and can be refined without restatement.

TMS GmbH
Dr. Gessler-Str. 16

Good Drives Wear Black



you need drives for your NeXT computer, PLI is the place to go. Whatever you need, we have it in black. 2.88MB floppy drives, hard disk drives, removable drives, optical drives, CD-ROM drives and AT backup drives with easy to use software.

Backup in Black

If you need a serious backup solution, PLI can help. The PL DAT for NeXT gives you 2GB of storage per tape. And because we include NetTar, from Juan Pineda, backing up won't put you in a black mood. Archiving is as easy as selecting files in a browser.

Black SneakerNet

If you need to get data from one NeXT to another, and you can't use a network, then SneakerNet is the answer. Lace up your high-tops and grab one of our high-capacity floppy diskette or removable hard disk drives. We have 2.88MB floppies and 21MB optical, plus 45MB and 90MB SyQuest-based drives.

NetTar, Optical and SyQuest are trademarks or registered trademarks of their respective companies.

Black to the Future

CD-ROM will soon be a major medium of software distribution on the NeXT, just as it is on other platforms. Out-fox your competitors and get a PL CD-ROM drive today!

Black Light

Lasers are the way of the future in data storage, and PLI has three great optical drives for your NeXT machine. They offer high-capacity removable storage and outstanding reliability, with a variety of speeds, form factors, capacities and price points from which to choose.

In the Black

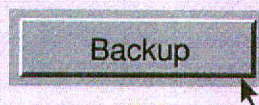
PLI is more than just a drive company with a lot of black boxes. We offer complete support; full manufacturer warranties, extensive burn-in and testing prior to shipment, good technical support, quick repairs when you need them and the security of dealing with a company that's been in the business for seven years. And best of all, we offer all this at affordable prices.

The most trusted name in storage solutions.



Peripheral Land Incorporated
421 Bayside Parkway, Fremont CA 94538
0. 657. 2211 / 800. 288. 8754 • FAX 510. 683. 9713

Backup without getting TAR and feathered.



If you're tired of struggling with cryptic UNIX backup utilities, now you can back up the way NeXT™ intended you to – *easily and intuitively*. With a mere click of a button, *RunningBACK* brings you the first user-friendly, graphical interface tape archive software for NeXT computers.

Powerful features allow you to back up entire volumes or make sophisticated rule-based selections of individual files. Choose files by date, title, type, creator, or any combination of criteria. Or schedule unattended backups with convenient timer scripts.

RunningBACK's cursor sensitive help window eliminates backup frustrations

providing real-time assistance. And it's multiplatform file format will allow data interchange with Macintosh computers.*

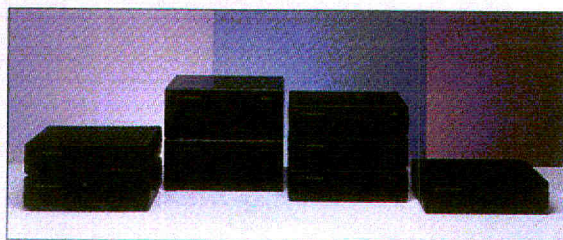
Bundled exclusively with the Microtech Eclipse 2.0T 2GB DAT drive, *RunningBACK* provides the only fast, network compatible tape backup application for NeXT computers. Unless, of course, you prefer TAR... and feathers.

For more information on *RunningBACK* or Microtech International's complete line of NeXT storage and memory products call:

800-325-1895

International inquiries: 203-468-6223.

*Eclipse CD,
Eclipse 2.0T Tape Backup,
Eclipse internal and
external hard drives
from 200MB -1.3GB,
Eclipse 50R Removable.*



MICROTECH
INTERNATIONAL, INC.

©1991 Microtech International, Inc., 158 Commerce Street, East Haven, CT 06512. All trademarks are the property of their respective owners.
*Requires purchase of *RunningBACK* software for the Macintosh. Microtech reserves the right to change specifications without notice.

Cranachweg 4
D8400 Regensburg
Germany
49/94/195-163
Booth 105

TMS is the expert for electronic publishing with a focus on image processing. As a small overview of our products we proudly present TMS Cranch Studio at NeXTworld Expo.

It's a modular, 32-bit image processing application that enables the user to work creatively as well as traditionally with the computer.

The visitor will also see the world premier of VektorTrace, a powerful vector tracer for bitmap and color images.

Our product range is rounded off by acquiring peripheral devices like the Montage FR1 film recorder, color print/copy units, and color scanners.

Toshiba America/TAEC
Recording Media Division
One Parkway N. #500
Deerfield, IL 60015
Booth 313

Toshiba is showing its line of 2.88MB ED diskettes for NeXT workstations as well as a full range of data storage media. Toshiba is the inventor, standards-setter, patent-holder, and the largest manufacturer in the U.S. for the new 2.88MB ED diskettes. The 2.88MB ED drives and diskettes are positioned to be the "next" industry standard in floppy storage across a broad range of hardware platforms, in addition to NeXT workstations.

Visual Understanding Systems
2100 Wharton St. #701
Pittsburgh, PA 15203
412/488-3600
Booth 229

PaperSight is Visus's document management system for personal or office wide use. Use *PaperSight* to scan in your paper documents, file them, retrieve them, and annotate them with text or voice notes. Use OCR to convert scanned documents for use with other applications.

Pittsburgh Project Manager is an easy-to-use project planner, with graphical task definition and editing. PPM calculates time, cost, and other accounting information for your projects.

SpeechKit is a state-of-the-art tool to add speaker-independent voice recognition to your NeXT applications. *SpeechKit* uses continuous speech and allows you to build good-sized custom vocabularies.

White Pine Software
40 Simon St. #201
Nashua, NH 03060
603/886-9050
Booth 213

White Pine Software, the leader in X Window system software for the Macintosh computer, will be exhibiting *eXodus* for the NeXT computer, an A Window system

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display server that allows users to remotely access X clients directly from the NeXT computer. eXodus features include a Client Launch facility that allows users to create and edit user-defined scripts; users also have the ability to copy graphics by regions from the eXodus screen to the NeXT pasteboard. eXodus has many other built-in features, such as the ability to print graphics and support the Motif window manager.

Wolfram Research

100 Trade Center Dr.
Champaign, IL 61820
217/398-0700
Booth 526

Mathematica 2.0 is a general system for doing numerical, symbolic, and graphical computation that can be used both as an interactive calculation tool and as a programming language. Its numerical capabilities include arbitrary precision arithmetic and matrix manipulation. It can manipulate formulas directly in algebraic form, performing such operations as symbolic equation solving, integration, differentiation, and power series expansion. The Mathematica kernel has been streamlined to increase efficiency. On systems with graphical user interface such as the NeXT computer, users can create interactive documents that combine input and output with text, graphics, and sounds. Mathematica generates two- and three-dimensional graphics in PostScript form.

WordPerfect Corporation

1555 N. Technology Way
Orem, UT 84057
800/451-5151
Booth 323

WordPerfect for the NeXT is a powerful word processor that takes full advantage of a graphical user interface. With full WYSIWYG display, headers, footers, and even footnotes can be seen and edited on screen. Graphics may be placed anywhere on a page and text will automatically wrap around them. The ruler lets you format and modify newspaper or parallel columns of any size, and change justifications, tab settings, line spacing, and margins. Printing enhancements in WordPerfect let you access a variety of font sizes and attributes.

Xanthus AB

Kungstensgata 14
S-113 S7 Stockholm
Sweden
46/8/612-8995
Booth 525

Multimedia programming for the 90s. Xanthus will be showing the Xanthus Craftsman, the new complete multimedia programming tool for the NeXT computer.

X-Ray Scanner Corporation

4030 Spencer St. #101
Torrance, CA 90503
310/214-1900
Booth 201

X-Ray Scanner Corporation (XRS) designs and markets a complete family of scanning products for the graphic arts, medical, scientific, industrial, and micrographic industries. Their products encompass: the 6c/6cx OmniMedia grayscale/color scanners; the Rayven RSU1; RSU2; and RSU3 large format radiographic scanners — able to digitize x-rays up to 14 feet by 36 inches; and the MicroScan1 — a 16mm roll desktop microfilm scanner. All XRS products come bundles with imaging and editing software. Founded on the statement, "The Scanning Solutions Specialists," XRS develops scanners that provide practical scanning solutions at an affordable price to a variety of professionals.

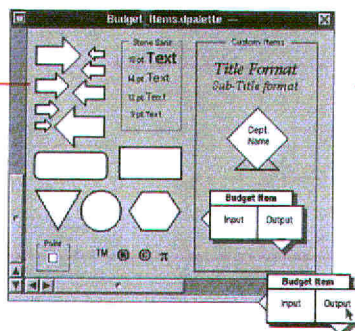
Work smart. Not hard.

DIAGRAM!

A graphics tool for people who think and draw at the same time.

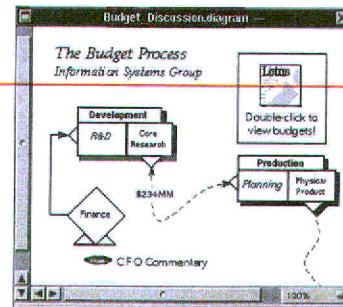
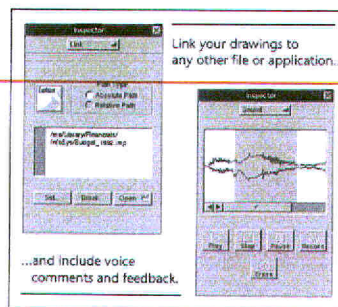
We're as fast as you are...

Not long ago, we at Lighthouse Design™ had a radical idea: let's make a graphics tool for those who think and draw at the same time. Pretty soon after, we figured out that everyone draws a little differently. So we built a tool that lets you teach it your style with a simple mouse click. Which frees you up to spend more of your time thinking and less of it drawing.



...almost as smart...

It's a sad fact, but most drawing tools are built for freehand illustrators. Which is fine if you spend your days drawing penguins and pears, but not so fine if you don't. If you're like us, you spend your days doing battle with business or admin graphics and technical documentation. So it's nice to know that Diagram!™ was built for those tasks. And not for drawing fruit.



...and just as well-rounded.

We all use pictures to simplify complex ideas and data. To tell the whole story, though, it's nice to have background information right at your fingertips—even if it's from a different application, like a spreadsheet or a word processor. How do you integrate all those files? With Diagram! of course. Just drop them into drawing objects and they're a mouse-click away.

Just think about that.

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Exhibitor Index

Abacus Research & Development	602	Lotus Development Corporation	502
Adamation	203	Marble Associates	625
Adobe Systems	512	Metaresearch	713
Altsys Corporation	218, 317	Metrosoft	617
Appsoft	506	Microtech International	426
Ariel Corporation	311	MicroTimes	200
Atherton Software Works	528	MRJ	130
Bacchus	719	Multimedia Learning	711
BANG (Bay Area NeXT Group)	702	Neuron	106
Booz, Allen & Hamilton	202	NeXT Computer	412
Boss Logic	314, 413	NeXTWORLD	406
Canon USA	230, 329, 330	Objective Technologies	518
Coconut Computing Inc	217	Oce Graphics USA	228
Computerworld	Lit Bin	Oracle Corporation	526
Computrend	612	PenCom	312
Cubix Systems	207	PLI	411
Digital Instruments Technology	118	Professional Software	117, 119
DisCopyLabs	112	Pyramid Technology	600
Dow Jones & Company	601	Quest	114
Ensuing Technologies	205	RDR	700
ESL	109	RightBrain Software	520
Forty-Two Software	120	Sarrus Software	211
Hayes Microcomputer Products	220	Second Glance	618
Highland Digital	500	Software Ventures Corporation	212
HSD Microcomputer U.S., Inc	324	Stone Design	619
I-link	224	Talus Corporation	620
Imagine Multimedia	614	Tecor	319
Information Presentation Tech.	428	Teledia	214
Information Technology Solutions	108	TMS Enterprises	105
Informix Software	627	Toshiba America/TAEC	313
Insight Software	325	Visual Understanding Systems	229
Insignia Solutions	306	White Pine Software	213
Intel Corporation	318	Wolfram Research	121
IP Design	219	WordPerfect Corporation	323
Lighthouse Design	301	Xanthus AB	525
Lorienne	103	X-Ray Scanner Corporation	201

NoIR User Group Gathering

Next Organizations International, (NoIR) is sponsoring an international user group meeting as part of NeXTWORLD Expo. As many as 100 groups worldwide will be represented. Leaders and rank-and-file members will gather to share ideas, organize, motivate, and learn.

When is the event; who can attend?

There are many events during the course of Expo, with the bulk of the programming on Friday at Brooks Hall. Separate registration is at no extra cost to all show attendees, but registration is required. If you are not registered in advance or want information on events on other days come to the user group table or the user group headquarters for information.

What is NoIR?

NoIR is a user group of user groups. It is people excited about NeXT, working at the grass-roots user-group level to help make the NeXT movement succeed. It's groups banding together to share information and ideas. It's groups holding joint programs and embarking on joint projects that would be beyond the scope of any one group. It's a

unified voice to work with NeXT and third parties to address user concerns. It's users helping users. For information on NoIR, contact Dan Lavin, dlavin@nextworld.com or noir_request@nextworld.com or call 415/978-3186 (day) or 415/922-6398 (evening).

Track 1 — Room 304

(aimed mostly at NeXT User Group leaders, newsletter editors,

board members, and NUG members):

Holding a Great NeXT User Group Meeting

Session 1, Track 1:

1:30 - 2:15 p.m., Fri 1/24/92
Chair: Rick Reynolds, Director, BANG

Attracting & Keeping Great Volunteers for Your Groups

Session 2, Track 1:

2:30 - 3:15 p.m., Fri 1/24/92
Chair: Kazunori Shioya, NeXus (Japanese NeXT User Society)

Great Leadership and Organizing Ideas (Legal issues, mailing lists, elections, working with dealers)

Session 3, Track 1:

3:30 - 4:15 p.m., Fri 1/24/92
Chair: M. Carling, BANG Board of Directors

How to Conduct NeXT User Training for Your Members

Session 4, Track 1:

4:30 - 5:15 p.m., Fri 1/24/92
Chair: Dr. John Glover, University of Houston

Track 2 — Polk Hall

(aimed primarily for rank and file, with a focus on programs)

General Session and User Group Keynote, Track 2

1:30 - 2:15 p.m., Fri 1/24/92

Setting up E-mail and Modems on the NeXT

Session 1, track 2:

1:30 - 2:15 p.m., Fri 1/24/92
Chair: Tim Reed, Director, Gotham Users of NeXT

Session 2, Track 2:

2:30 - 3:15 p.m., Fri 1/24/92
Chair: Not available at press time

Making a Living with the NeXT Computer

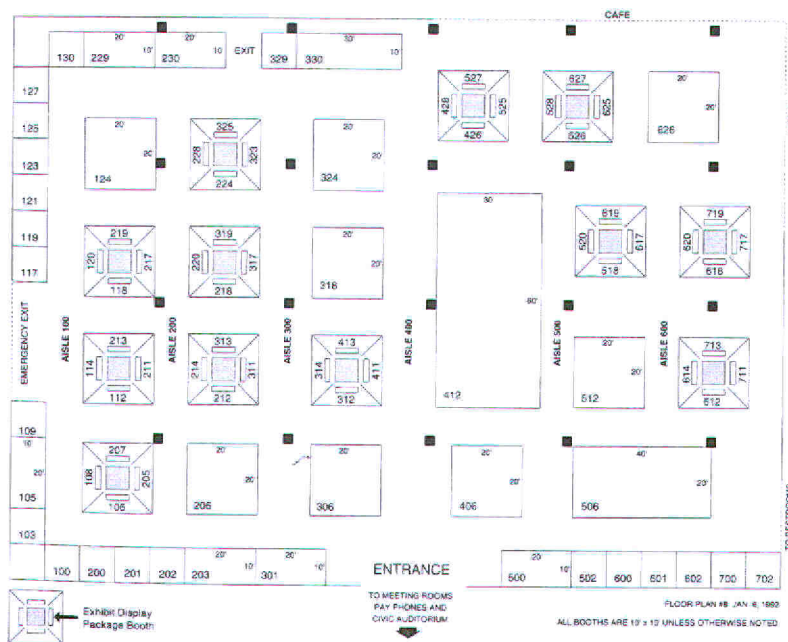
Session 3, Track 2:

3:30 - 4:15 p.m., Fri 1/24/92
Chair: David Pollak, Director, Boston Computer Society

Great NeXT User Group Newsletters on the NeXT (Production ideas, distribution — NeXTware announcement)

Session 4, Track 2:

4:30 - 5:15 p.m., Fri 1/24/92
Chair: Cynthia Closkey, Editor, BANG Newsletter



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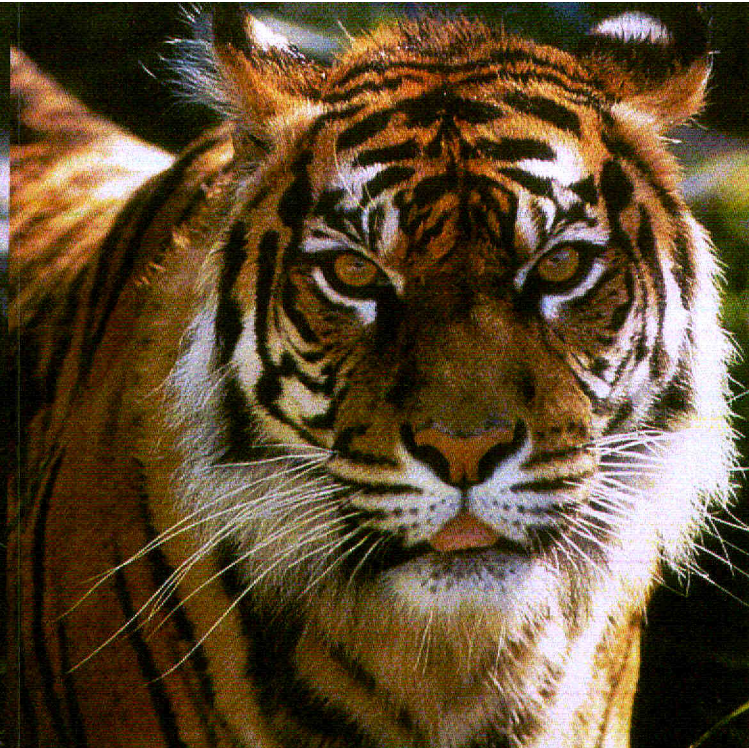
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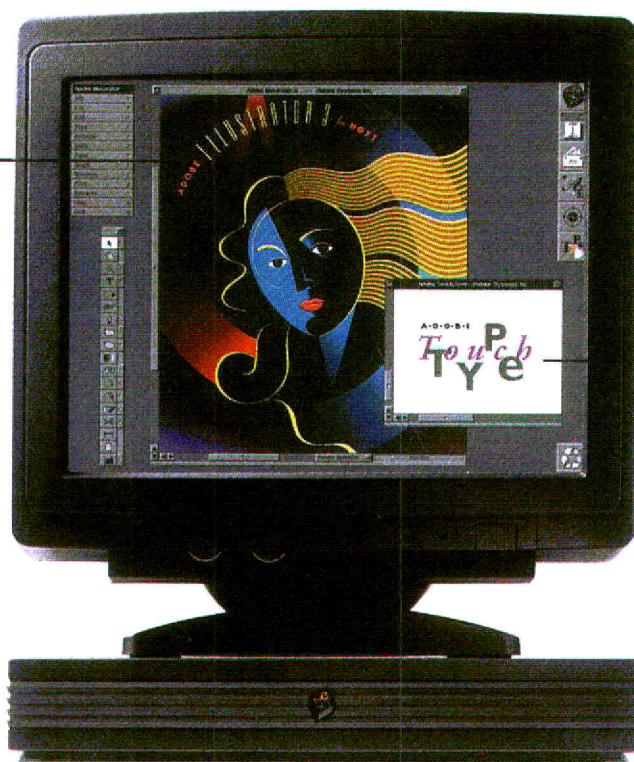


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